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The Inspirational Effect of Major Sporting Events on Attenders' Attitudes and Behaviours

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Sheffield Hallam University

The Inspirational Effect of Major Sporting Events on Attendees' Attitudes and Behaviours

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A thesis submitted in partial fulfilment of the requirements of Sheffield
Hallam University for the degree of Doctor of Philosophy

September 2019

Candidate Declaration

I hereby declare that:

1. I have not been enrolled for another award of the University, or other academic or professional organisation, whilst undertaking my research degree.
2. None of the material contained in the thesis has been used in any other submission for an academic award.
3. I am aware of and understand the University's policy on plagiarism and certify that this thesis is my own work. The use of all published or other sources of material consulted have been properly and fully acknowledged.
4. The work undertaken towards the thesis has been conducted in accordance with the SHU Principles of Integrity in Research and the SHU Research Ethics Policy.
5. The word count of the thesis is 77,135.

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Date	<i>September 2019</i>
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Statement of Originality

I hereby declare that all the work contained in this PhD thesis is original and was undertaken by the author unless otherwise stated below. Where reference is made to the work of other, citations are included with the authors name and year of publication.

The self-administered questionnaires (surveys) were designed and ethics approval was gained by Simon Shibli (SS), Larissa Davies (LD) and Girish Ramchandani (GR) (supervisory team). Both the event-based and post-event survey were distributed by the Ricardo de Sousa (RDS), also referred to as the author, however for the pre-pilot and the pilot studies, the author had the assistance of a fellow PhD colleague. The survey analysis was conducted by RDS.

The interview was designed by RDS in conjunction with the guidance of the supervisory team. The interviews were conducted via a phone call, and therefore the schedule was determined by the convenience of the interviewee.

Access to the 2018 Women's Hockey World Cup was obtained through a research programme partnership between the Sport Industry Research Centre (SIRC) at Sheffield Hallam University (SHU) and UK Sport. GR assisted RDS with obtaining a contact with a member of both the England Hockey's (EH) and UK Sport's events team, in order to collect the relevant stakeholder leveraging data.

The Events Inspired Behaviour Change Model (EIBCM), which is a key contribution of knowledge of this thesis, was designed by RDS and guided by SS, LD and GR.

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Finally, I would like to dedicate my PhD to my grandad António Dias and uncle Nelson Dias, who sadly passed away during the final stages of my journey. Whilst you are no longer physically present to witness the final stage of this PhD, I believe you are forever present and proud of how far I have come. This has given me the added strength and motivation to do my best to ultimately reach my primary goal which is to successfully complete my PhD.

Abstract

Background

The inspiration effect of attending major sporting events has become a highly researched area, leading on from the London 2012 Olympic and Paralympic Games' 'inspire a generation' objective, but has been largely limited to measuring 'intention' to change behaviour in terms of sport and physical activity participation of attenders aged 26 and over rather than its impact on younger attenders.

By adopting the EBIC Model (TTM + TPB), this study aims to address this need by contributing towards testing the inspirational effect of attending the 2018 Women's Hockey World Cup, through the measuring of both the intangible (intention and attitude) and tangible (behaviour change) outcomes. It also examined the leveraging strategies implemented by event stakeholders to increase sport and physical activity participation.

Methods

A mixture of self-administered 454 questionnaires (407 event-based and 47 post-event) and phone interviews were used. The event-based questionnaire enabled the collection of both pre and during-event data, and interviews with the event stakeholders (three members of the England Hockey events team and one from UK Sport), the leveraging of the event. Email exchanges between these members providing additional evidence, helped to further complement data from interviews.

Results/Findings

Results showed the inspiration effect to be prevalent amongst the younger demographic (16-25) and that there are facilitating and mitigating factors which significantly affect sport and physical activity participation. Of the attenders in the event-based sample, 84.5 percent were already active, with no significant changes in sport and physical activity participation being found. Any changes in behaviour were attributed to those who were already active. Leveraging strategies were present pre, during and post-event, however most of the

attenders in the sample reported to having not experienced any of these implemented strategies.

Conclusions

Attending a major sporting event can contribute, and thus act as a catalyst to increase sport and physical activity participation. However, this change in behaviour was not shown to be significant and was attributed predominantly to attenders who were already active. This PhD study contributed towards the testing of the inspirational effect of attending major sporting events in the UK, by measuring the attitude and behaviour change in attendees.

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Chapter One - Introduction

1.1 Introduction

A key objective of the London 2012 Olympic and Paralympic Games was,

"To inspire a generation of young people... giving hundreds of thousands of young people across the UK opportunities to learn new skills. try different activities and enjoy being part of their communities as a result of the London 2012 Games; and improving the lives of millions of disadvantaged young people around the world" (DCMS, 2008, p42).

The above rhetoric has been questioned by Weed et al (2015), since most of the research conducted has shown short-term 'inspiration effects' of already active event attenders, rather than sustained positive attitudinal and behavioural change. According to data from the Active People Interactive (2013), during the hosting of the London 2012 Games, sport participation (at least 1x/week) experienced an increase (1.3 percent), whilst sports participation in general in any sport also experienced an increase (0.4 percent). However, post-event (12-months) data shows a decrease in sport participation of 0.3 and 0.9 percentage points respectively, suggesting that this short-term behaviour change is a consequence of the euphoria generated by the hosting/celebration of the sporting event itself.

There are a plethora of studies which display a variation of results regarding the connection between hosting major sports events and a positive change in sport and/or physical activity behaviour (Derom, Vanwynsberghe and Scheerder, 2015; Hover & Breedveld, 2015; Ramchandani et al, 2015; Potwarka, 2015; Potwarka et al, 2017; Ramchandani et al, 2017a; Ramchandani et al, 2017b). However, evidence has been largely mixed, including some inconclusive results about the health and socioeconomic benefits for the host population of previous major sporting events (McCartney et al, 2010).

This chapter will present the context for the research, including the definition of some of the key terms and the rationale for the PhD. In addition, the research context will be given, which will provide a brief yet detailed background for conducting the research. Furthermore, the justification for the research will be provided through the need for the study/contribution to knowledge, with the main aim and objectives illustrated, providing the building blocks for the PhD. Finally, a detailed and clear structure of the thesis, and guide for the subsequent chapters will be included.

1.2 Research Context

1.2.1 Magnitude of Sports Events

Major sport events including the IAAF World Indoor Championships and FIH Women's World Cup are deemed to attract a significant number of attendees (tens of thousands/millions) both at the event itself (Cornellisen, 2004) and through various media platforms such as television and online streaming.

UK Sport (2017) classifies a 'mega' sport event as representing the pinnacle of a specific sport at either European or World level. Additionally, its staging is likely to cost in excess of £10 to £15 million and attract over 100,000 spectators. Nevertheless, UK Sport makes the previous constitution of a 'mega' event, under the 'major' section, thereby highlighting a different approach to the classification. Muller (2015) emphasises that size is used as the distinction between events, with mega-events being regarded as larger than major events. Whilst it is acknowledged that different researchers and sport organisations may have different criteria for the classification and magnitude for 'major', it is evident that they have the 'international' aspect in common and are typically based on Olympic sports (Rosentraub, 2013; Muller, 2015). Additionally, these sport events are regarded as attributing 'home advantage' to the hosts, thus highlighting their overall magnitude to the host city/nation.

For the purposes of this PhD, the adopted definition of what is a 'major' sport event incorporates Muller's (2015) and UK Sport's (2017) reasoning, and

therefore is defined as an international sporting event (i.e IAAF World Indoor Championships).

1.2.2 The Demand for Hosting Sports Events

It is recognised that there has been a substantial growth in the staging of major sport events on an international level during the past thirty years (Cashman, 2006). The Global Sports Project undertaken by Sportcal indicates that *"the hosting of sports events has become a huge global industry, with billions of dollars spent every year in organising major events around the world"* (Sportcal, 2012, p3). Evidence regarding the growth in competition to host major sport events is highlighted in a study conducted by Emery (2002) who states that *"cities from around the world are increasingly choosing sport and the recent phenomena of hosting high profile sports events as a potential growth strategy"* (p316). Furthermore, Horne (2007) advocates that one of the key rationales for cities and nations to bid for the hosting of a major sport event is the prospect of attracting a significant amount of additional tourists. Walters (2008) suggested that, the bidding to host sporting events of an international magnitude has become increasingly more competitive. Preuss (2008) acknowledges that *"ever more cities and countries are bidding to stage major sporting events"* (p1), with evidence given on the significant benefits attributed to sporting events such as American Football Super Bowl, Summer Olympic Games and FIFA World Cup. Getz & Page (2016) highlight, that sporting events are increasing in popularity as they present a means of attracting attention to specific locations in the host nation. Westerbeek et al (2002) provide examples of this, including the 2000 European Football Championship in Rotterdam and the 2002 Manchester Commonwealth Games. Hosting these events enabled the host cities to maximise the benefits from sponsorship, media exposure and event tourism (Westerbeek et al, 2002).

Nevertheless, Walters (2008) points out that these reasons may be over emphasised in order to maximise the chances of bidding success. Horne and Manzenreiter (2006), Maening and Zimbalist (2012) and Goig (2012) state that normal/standard competitions do not guarantee the projection of the host

nation's cultural and social organisation image, along with the economic and political power. Guarinello (2001) and Park (2003) state that even unsuccessful bids for events such as the Olympic Games (OGs) can result in benefits such as the initiation of urban and regeneration projects.

The London 2012 Olympic Games bid cost the government an estimated £30 million along with stakeholder support and other resources (Berman, 2010), however Walters (2008) argues it resulted in benefits despite the bid only being successful two years later. In contrast, the bidding procedure for events such as the junior world championships is not regarded as competitive, with many junior events not incurring bidding fees (Walters, 2008). This suggests that the competition for bidding for sporting events varies considerably depending on their magnitude, with the competitiveness being at its peak for mega sporting events such as Olympic and Paralympic Games, the FIFA World Cup and the UEFA Euro Championships (Carey, Mason & Misener, 2011). The 2010 Lacrosse World Championships, which began with two candidates in the bidding process, but concluded with only the Manchester option after Australia withdrew, highlights this reality (Walters, 2008). Nevertheless, according to Schwarz et al (2017), despite a range of benefits, the competition to host the Olympic Games has diminished, going from eleven host city bids for the 2004 Summer Olympics to five for the 2020 Summer Olympics (Chappelet, 2013). Schwarz et al (2017) refer to the 2014 Sochi Games in Russia as another example of the lack of cities willing to take on the pressures of staging an Olympic Games, due to *"unfavourable public referenda that were seen as a backlash against a widely-reported public expenditure overrun"* (Sportcal, 2016, p20). Manfred (2014) further highlights this with the withdrawal of Norway from the 2020 Olympics.

Field and Kidd (2016) argue that Toronto's bidding for the 2008 Olympic Games would not have been justified unless there was a considerable excitement/propaganda campaign surrounding it. It is evident that both major and mega sport events are used as justification for the substantial public investment (Gratton, Shibli & Coleman, 2006). Evidence of this argument may

be seen through the renewal of sport infrastructure and programmes, as a result of the leverage and excitement of the three Pan-American Games hosted in Canada (Winnipeg 1967 & 1999 and Toronto 2015) (Maennig, 2007; Allmers & Maennig, 2009). The sporting events such as the 1999 Pan American Games in Winnipeg were also used to *"strengthen branding, trade, tourism, and community pride"* (Kidd & Field, 2016, p233). Thus, Xu (2006) states that hosting major sporting events, enables sport and other groups of interest to mobilise governmental entities and other institutions to provide support, as they generally possess the public's approval and support. As verified, the demand to host major sporting events varies according to the perceived potential benefits from the host cities/nations.

1.2.3 Importance and Policy of Sporting Events

The hosting of sporting events has gradually changed (Field & Kidd, 2016). As a result, these changes have affected sport policy on a global scale, and consequently paved the way in which sporting events are planned and delivered (Jefferys, 2012). The 21st century saw an increase of new possibilities and a new era of international politics, partly due to the previous evidence on the successful hosting of sporting events (Chalip, 2004). This success may be defined according to positive outcomes that occur before, during and after the completion of the event (Taks, Chalip & Green, 2015). In some cases, such as in the 2004 Athens Olympic Games, success occurred in terms of delivery but arguably had the opposite effect post-event (Potsiou & Zentelis, 2005; Weed, 2008; Kissoudi, 2010).

Santos (2014) states that sporting events such as the African, European, Asian and Pan American Games, all provided,

"a unique opportunity to nations of little or no relevance in the international political scenario to win world famous competitions and be placed on the centre stage, where they would never be by any other means" (p1312).

Field and Kidd (2016) suggest that due to the successes of hosting the Pan American Games, Canada embedded major sporting events into sport policy.

These events may therefore be used in the political and/or elite sport arenas towards the fulfilment of specific targets/agendas or set policy objectives (Hall, 2000; Black & Van der Westhuizen, 2004; Getz & Page, 2016). However, Field and Kidd (2016) argue that, should the Pan American Games not have resulted in a positive experience; it is not likely the Canadian government would attribute such level of importance to these.

The importance of hosting a major sports event may be of such appeal, that host cities/nations may eventually skip standard protocols/bidding criteria on an internal level in order to get a green light to deliver the event. An example of this is Roche's (1994) case study of the decision made by Sheffield City Council to host the World Student Games (WSG) in the 1990s which indicates that the policy decisions were undertaken with bypassed democratic processes, suppressed crucial financial information from public debate and limited economic forecasting. Evidence of this is seen by the hasty feasibility study in 1986 which displayed low capital costs and no event deficit. In addition, a negative financial study was suppressed, highlighting the initial point of how internal criterion was ignored in order to push forward the bid of the World Student Games. Weed (2005) reported that the financing of the WSG led the city to £147 million of debt (not including accumulated interest) (Sheffield City Council, 2015). In addition, Bramham (2008) points to the 2002 Manchester Commonwealth Games as a sporting event with similar characteristics, where shortfalls in funding occurred, along with the decision to hand over the City of Manchester Stadium to Manchester City Football Club. However, as pointed out in section 1.2.5 below, both the Sheffield World Student Games and the Manchester Commonwealth Games resulted in benefits to the community.

The United Kingdom's 1997 Royal Charter has as one of its key objectives to *"promote Our United Kingdom or any part of it as a venue for international sporting events, and to advise, encourage and assist bodies in Our United Kingdom staging or seeking to stage such events"* (p.2). Additionally, it seeks to *"organise, present, produce, provide or subsidise"* (1997, p3) a variety of

events, both live and recorded. This could be deemed as the start of an era regarding the hosting of sporting events in the United Kingdom, thus underlining the importance attributed to the hosting of major sport events.

1.2.4 UK Sport Agencies and Policies

In the United Kingdom, UK Sport, Sport England, Sport Wales, Sport Scotland, and Sport Northern Ireland are recognised as the main sport agencies that invest government money (exchequer and national lottery) into different yet connected sectors of sport (DCMS, 2013). Whilst responsible for the implementation of the sport policy agenda, they may have different focusses and ultimately goals.

UK Sport in partnership with the Department for Culture, Media and Sport (DCMS) is responsible for the bidding and staging of major sport events and maximising sporting activity and influence overseas, with the rationale of providing UK athletes with a platform for elite performance success. The current focus in the UK places greater importance on people's experience in sport (UK Sport, 2015; Sport England, 2016). In regards to major sports events, the strategy aims to maximise the wellbeing and both the economic and social benefits to the UK (UK Sport, 2015). Northern Ireland, however, incorporated the organisation of sporting competitions at both national and international levels as part of their sport policy (Sport Northern Ireland, 2012), due to their contribution to athlete development. The difference between England and Northern Ireland is on the emphasis beyond athlete development and performance into wider impacts (economic and social).

Sport Wales' (2011) 'A vision for sport in Wales' has associated the hosting of high-profile sports events to economic development and tourism. There is the belief that sport may contribute to savings in the economy through reductions in health resources and in its preventative role by contributing to a reduction in work force absence due to factors such as mental and physical health. However, the policy highlights the 'feel good' factor, meaning positive psychological health and well-being (Sport Wales, 2011). Additionally,

emphasising how sport can contribute on a deeper social level, such as increased social interaction.

Sport Scotland's (2015) 'Raising the bar - corporate plan' highlights support towards schools and education, clubs and communities, and performance; however, hosting major sports events is not an area of focus in comparison with England, Northern Ireland and Wales. Whilst one of the focal points is enhancing sporting experiences in schools and the community in general, the emphasis is placed on making sure that the different institutions are able to provide more opportunities for children and young people.

Despite each sport agency being responsible for implementing sport policy and providing the necessary support to successfully achieve specific objectives, Weed et al (2012, 2015) argue that the extent to which international and national sport policy are effective in increasing sport and/or physical participation in the United Kingdom is still a subject of debate (Weed et al, 2012, 2015).

Whilst the main focus of Sport England is mass participation in sport and improving people's lives through sport (Sport England, 2015), evidence of such increase and people's attitude towards sport has been limited. Since the London 2012 Games, Sport England's Active People Survey has reported mixed evidence regarding sport participation levels. The London 2012 Olympic and Paralympic legacy promise involved increasing the number of regular adult sport participants by 2 million by 2012, and in addition getting 50 percent of the nation active by 2020 (DCMS, 2008; Girginov & Hills, 2008; Charlton, 2010). However, the 2010 Coalition Government dropped all targets relating to increased sport participation but maintained the commitment to deliver a sporting legacy (Lovett & Bloyce, 2017). Evidence shows that from 2011/2012 to 2015/2016, overall adult participation of 30 minutes of moderate intensity per week has increased by approximately 0.47 percentage points (15.89 to 15.97 million); however, for ages of 16 to 25 participation has decreased by 0.01 percentage points. Furthermore, if the previous demographic is extended to 14-year olds, then the decrease is statistically more significant (0.82

percent). The Active People Survey 1 (APS 1) conducted in 2006 found for the same statistic that 14.083 million (34.6 percent) participated in sport, whilst APS 2 in 2008 reported an increase to approximately 15.186 million (36.6 percent) (Active People Interactive, 2015). Statistics show that 15.5 million people aged 16 years or older, played sport at least once a week in December 2012 (DCMS & DforE, 2015). However, between 2013 and 2014 a decrease in overall participation was verified (APS 7), which casts doubt over the long-term effects of the 2012 Olympic Games. The impact of the 2012 London Olympic Games is thus unclear.

1.2.5 Rationale for bidding and investing in major sports events

The World Health Organisation (2019) defines 'health' as a state of complete mental, social and physical wellbeing, beyond purely the absence of disease or injury. Gratton (2004) and the Department of Health (2016) argue that the benefits of practicing sport are varied, and include: decreasing the risk of cardiovascular mortality in general, control of body weight, reducing the risk of falls and accidents and, reducing the risk of depression. The importance of sport and physical activity to achieving those benefits has been noted in the increasing of sport governmental policy (Gratton, 2004).

The growth of sport-related regeneration in the UK was explored by Davies (2010), who suggests that in the case of the Sheffield WSGs, it brought about a significant economic impact to the city and was a catalyst for the continuing regeneration of the city, in turn creating a gradual high-profile sporting status within the UK. Sheffield was left with world-class sport and leisure facilities, meaning an enhancement in infrastructure (Malfas et al, 2004). Additionally, Newby (2003) emphasizes that for the Manchester Commonwealth Games, between 1999 and 2002, resident satisfaction regarding the provision of parks and green spaces increased from 28 percent to 75 percent respectively (Newby, 2003). Additionally, vandalism was reported to have decreased by 6 percentage points. Further evidence shows that residents' perception that their neighbourhood was getting better substantially increased from 17 percent

(1999) to 52 percent (2002), whilst those who felt negatively about their location decreased from 52 percent (1999) to 30 percent (2002) (Newby, 2003). This seems to support the argument that the 2002 Manchester Commonwealth Games were generally perceived as beneficial and as a result successful, however, the attribution of causality is evidently very challenging.

However, with respects to the Olympic Games (Barcelona, Athens and London), there have been anti-Olympic bid protests based on the cultural, economic, environmental and social impact on the disadvantaged neighbourhoods (Bramham, 2008). When the UK bid for the 2012 London Olympic and Paralympic Games, an explicitly stated rationale was its legacy, and its ability to *"inspire young people to play more sport"* (DCMS & DforE, 2015, Policy Paper - Background). Walters (2008) suggests that, together with other social and economic impacts, winning the bid to host the 2012 London Olympic and Paralympic Games in 2005, and a change in government policy, could potentially act as catalysts to increase sport participation. However, it should be acknowledged that sport participation increased partly as a consequence of the increase in the overall population, whereas the rate of sport participation experienced no significant changes. Ultimately, evidence by Sport England's (2016) Active People Survey 10 indicates that since the 2012 London games (October 2012 to April 2016); adult participation (1x30min/week) has actually decreased.

1.2.6 Changes to sports policy in the UK

Sports policy, according to Bramham (2008) has gained in political significance due to its general public appeal. In England, a change in focus may be seen in sport policy related to sports events (see table 4.3 below). The 2000 'A Sporting Future for All' was a demonstration of the focus placed on grassroots all the way up to elite sport. However, in 2005 with, London being awarded the 2012 Olympics, the attention shifted to elite sport and the role of sport regarding economic regeneration (Carmichael et al, 2013). Funding was therefore attributed with specific medal targets for the London 2012 Games, emphasising the high-performance rationale behind the support in sport.

Whilst in 2008 Sport England were set two positive goals, namely: increasing the number of people undertaking three 30-minute sessions of moderate intensity per week, and achieving one million more people (inactive population) to take part in sport and physical activity. Nevertheless, achieving a specific number of people doing sport does not reflect a long-term objective, but rather an immediate target. This could be regarded as short term and therefore lacking sustained behaviour change.

The 2010-2015 Conservative and Liberal Democrat Coalition government sports participation policy document (DCMS, 2015), aimed to tackle the issue of people who stop participating during after school hours, as this may lead to a less healthy lifestyle but also prevent the maximisation of their sporting potential (DCMS & DforE, 2015). Nevertheless, they acknowledge that there are external factors such as income, location and transport, which may condition after school sport. In addition, it is recognised that the investment (£450 million from 2013-2016) primarily funds mass sport participation of young people and children, and excludes adults (DCMS & DforE, 2015).

The current government has made reforms and developed a new strategy called 'Sporting Future: A New Strategy for an Active Nation'. Until recently, the focus was placed on reaching targets based on the number of people playing sport, underlining how sport and physical activity measurement was achieved on a superficial basis. However, key areas of the new strategy include: Active Lives (new survey), inclusion of 5 years of age (previously 14) for out of school hours (Sport England, 2016), highlighting the inclusion of children under 14 years of age. Emphasis has been placed on the overall importance of sport, rather than how often people participate (HM Government - Sporting Future, 2015), underlining attitudes and feelings. Moreover, the new measurement is based on 2x30 minutes in the last 28 days as opposed to the previous 3x30 minutes per week, but has expanded its remit to include: walking for leisure and travel, cycling for travel and dance. Thus, illustrating the different approach adopted by the government with regards to the measurement of sport and physical activity.

The strategy employed by the DCMS and SE include different key performance indicators (KPI) as part of the measurement of outputs, such as measuring the percentage of young people (11-18) with a positive attitude towards sport (KPI 6), in addition to statistical evidence of changes to participation and volunteering (Sporting Future, 2015). However, the new KPIs do not reinforce attitudinal changes for people over the age of 18. These measurements could be potentially seen as a good indication of their attempt to achieve positive attitudinal and behaviour change in sport and physical activity (Sporting Future, 2015), emphasizing the need for further attitudinal and behavioural change measurements.

1.3 Need for the Study/Contribution to Knowledge

Weimar et al (2015) found significant effects resulting from the 'staging' of major sporting events over a long period of time, however, the study only looked at the male demographic and at club memberships, which may not be truly representative of the inspiration effect. Research data shows that there is a 45-55 percent inspiration effect from attending major sporting events, with only 25 percent effect when watching on TV. The effect is prevalent in those who are already active, however out of these, only a smaller percentage was inspired by the sporting event. There is therefore a need to test the inspiration effect as a result of 'attending' a major sporting event, and this PhD tested this.

Recent research suggests however that there is a lack of evidence concerning the connection between the 'inspiration effect' of major sports events and, sport and physical activity participation (see Appendix B). Moreover, there is limited research in regards to the environmental factors that may affect major sports events attendees' behaviour in the United Kingdom; therefore, further empirical evidence is required. The question to be answered is whether the hosting of major sporting events actually improve people's disposition towards sport and physical activity and positively changes their behaviour.

As established in section 2.2.2 (see literature review), the literature surrounds mainly on the economic impacts of hosting major sports events, thus

highlighting a gap with regards to the social impacts of hosting and attending these events. In addition, it was recognised that both past and current research has been primarily based on adults aged 16 and over (particularly in older demographics - 26 years and older). Research seems to indicate that young people are easier to inspire in relation to the older generation (Potwarka & Leatherdale, 2016). Furthermore, with older people such as over 30 years of age, the body tends to not be as able to perform and thus successfully participate in sport and/or physical activity, along with other life factors that get in the way. As a result, it is evident that research should be extended to the younger age group (16-25).

Studies such as Frick and Wicker (2016), Ramchandani et al (2017a), Potwarka et al (2017) and Ramchandani et al (2017b) have either attempted to identify sports events attendees' intention and/or post-event behaviour changes to participate in sport and/or physical activity (see Appendix B). However, as illustrated in Chapter Two, the measurement of actual behaviour change across the different stages has only been recently achieved and therefore requires further research (Ramchandani et al, 2017b, Ramchandani et al, 2019). This PhD measured both attitudinal and behavioural changes of major sport event attenders by using appropriate theories and conceptual models.

1.4 Research Aims and Objectives

In line with the research question 'to what extent do major sports events inspire young people aged between 16-25 to increase their sport and/or physical activity levels?', the aim of this research is to test the inspiration effect of major sports events, using a refined conceptual model and, attitudinal and behavioural theories, on attenders' (aged 16-25) sport and/or physical activity participation in the United Kingdom.

The objectives are:

- To critically review and evaluate the applicability of the appropriate theories and models of behaviour and behaviours change to attendees of major sport events;
- Develop a refined conceptual model (Events Inspired Behaviour Change Model) which can measure attitudinal and behavioural change;
- To measure actual attitudinal and behavioural changes of young people aged 16-25, using the Events Inspired Behaviour Change Model.
- To examine and test the driving factors that may facilitate or mitigate a positive change in sport and physical activity behaviour of attendees aged 16-25, using the Events Inspired Behaviour Change Model.
- To examine and provide insights as to the opportunity provided by stakeholders to lever major sport events.

1.5 Thesis Structure

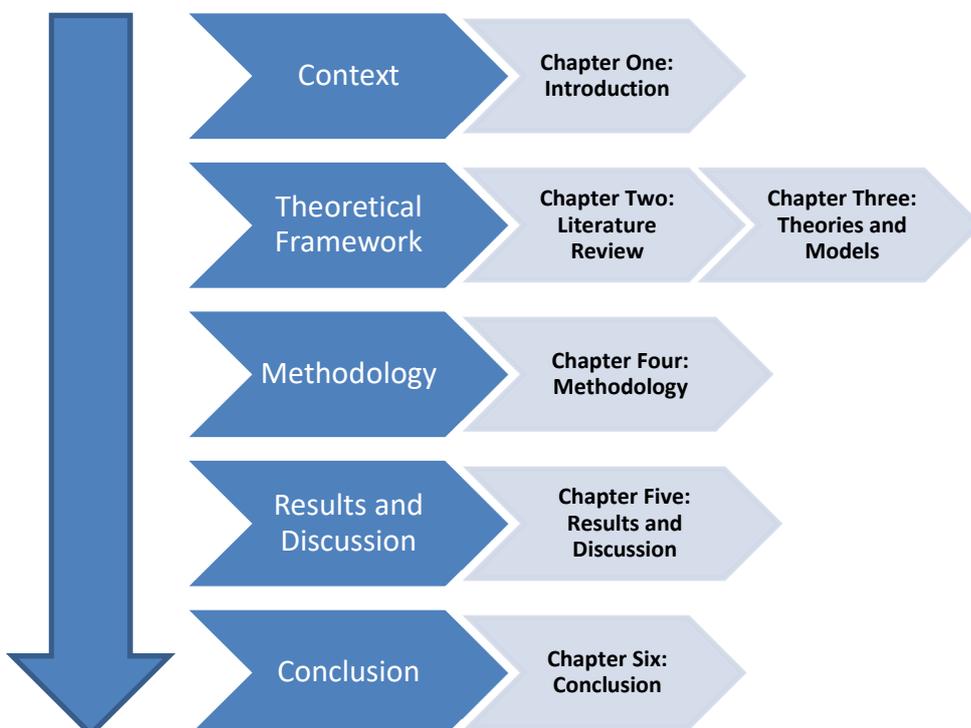


Figure 1.1 - Thesis structure

Chapters Two and Three provide the theoretical framework, which include a literature review and the theories and models of behaviour and behaviour change, respectively. Moreover, Chapter Two highlights the gaps in the current literature, whilst Chapter Three critically illustrates the appropriate theories and models applicable to the overall aim of this PhD.

The subsequent chapter (Chapter Four), provides a detail analysis of the methods adopted and the justification for such choice. The researcher's philosophical stance will be discussed, along with the ethical considerations and the major sports events used for the data collection. Whilst Chapter Five presents all of the empirical results from the gathered primary and secondary data, and consequently provides a comprehensive discussion.

The concluding chapter of this thesis (Chapter Six) offers a summary of the key findings of this study related to the research aim and objectives outlined in section 1.4. In addition, the limitations encountered are addressed with potential solutions given, and the contribution to knowledge will be highlighted. To conclude, the final chapter provides a discussion of the areas for future research.

Chapter Two – Literature Review

2.1 Introduction

The thesis aims to test the extent to which major sporting events inspire its attenders to increase their levels of sport and/or physical activity, by measuring attitudinal and behavioural changes. This chapter provides a critical analysis of the current literature, including the impacts of major sport events, including economic, social and cultural, and the 'inspiration effect'. The inspiration effect, as the main concept of this thesis will be analysed in detail, including the impact regarding children, young people and adults, highlighting the various gaps and limitations in the current body of knowledge concerning the attitudinal and behavioural measurement. Furthermore, a comparison will be made between attending live sporting events and watching these on TV and other media platforms. In addition, the difficulty in attributing the cause and effect relationship between attending a sporting event and a potential increase in sport and/or physical activity participation will be explored. The methodological approaches by the numerous studies analysed will be discussed, with further limitations and gaps in the methods identified. The driving factors which may impact on sport and physical activity participation will be acknowledged, with those which have not been researched recognised. Ultimately, a multitude of gaps and limitations in the current body of knowledge will be highlighted, paving way for the direction of research for this PhD.

Despite the notion of 'inspiration' emerging in the 1990s, as seen with research by Hindson, Gidlow & Peebles (1994) and Australian Sports Commission (1994), it is still a fairly new concept and has only recently been subject to increased amounts of interest in the UK, as part of the rationale and legacy behind the London 2012 Olympic and Paralympic Games. In addition, it should be pointed out that much of the current literature surrounding the impacts of sporting events is mostly based on mega events (see Appendix A), whilst the 'inspiration effect' has centred on both major and mega, thus the critical analysis provided includes 'mega' events.

2.2 Impacts of Major Sport Events



Figure 2.1 - Mapping of section 2.2

2.2.1 Impact or Legacy

A key question which has emerged from recent studies (Chappelet, 2012; Taks, Chalip & Green, 2015; Schwarz et al, 2017; Trotier, 2017) relates to whether it is the impact or the legacy that is being measured when hosting a major sport event. Whilst they sometimes may be used interchangeably, these are two distinct concepts (Schwarz et al, 2017). According to Preuss (2007), an impact results from a short-term impulse (event visitors consuming during the event), whilst legacy are the long-term effects of hosting the events, generally associated with post-event tourism, public health (Green, 2008) and urban regeneration (Gratton et al, 2005), resulting from a significant exposure of the host city/nation. Mangan (2008) considers 'legacy' to be a *"tangible or intangible thing handed down by a predecessor; a long lasting effect of an event or process; the act of bequeathing"* (p1896). Boardley (2013) highlights the commitment expressed by the 2012 London Olympics Committee towards the 'legacy' of the Games, however, according to Weed et al (2009) and McCartney (2010), this has never been achieved. Nevertheless, Preuss (2007) shows that despite there being an increasing acknowledgement of the importance of the maximisation of the legacy of major sport events, there are limitations in systematically attempting to measure the long-term benefits.

According to researchers such as Solberg and Preuss (2007), Gratton and Preuss (2008), Silvestre (2009), Kaplanidou and Karadakis (2010), Karadakis and Kaplanidou (2012), Davies (2012), Liu and Wilson (2014) and Liu, Broom and Wilson (2014), there are several different impacts that may occur as a result of hosting major sporting events, namely: sport participation and development, urban regeneration, tourism, social impact and economic

impact. Peric (2010) considers 'sport tourism' as a sociological phenomenon, and according to Weed (2006) it is forecasted to increase by an annual rate of 10 percentage points. However, Mangan (2008), Karadakis and Kaplanidou (2012) and Liu and Wilson (2014) suggest there are also negative impacts which include environment pollution, crime concern, inconvenience to people's lives and price inflation. These are all considered to be aspects of direct or indirect actions of such events, and are all under the social and economic categories (Solberg & Preuss, 2007; Silvestre, 2009). The framework of this PhD will encompass several event impacts which include economic, social and cultural impacts, associated with the hosting of major sporting events, although it will be specifically concerned with the potential ability of major sporting events acting as catalysts to increase sport and physical activity participation (impact) on a medium to long-term (legacy) time scale.

2.2.2 Economic Impact

The economic impact is regarded by Gratton, Shibli and Coleman (2006) as one of the main reasons for hosting major sport events. Schwarz et al (2017) suggest that the hosting of sporting events is expected to *"induce spending in the local area, thus profiting local businesses"* (p284). Coates and Humphreys (2003) support this by stating that by having more money circulating in the area, there is a stimulation which ultimately results in a growth of earnings and employment. Gratton et al (2005) acknowledge that *"major sports events can have a significant economic impact on host communities"* (p991). Evidence provided by Gratton et al (2005) shows that the half day 1997 IAAF Grand Prix Athletics in Sheffield and the 2000 Flora London Marathon produced £0.18 million and £25.5 million respectively. Walters (2008) supports this by suggesting that hosting major sporting events can generate supplementary direct and indirect spending within the economy and thus have a positive economic impact.

Evidence regarding the dual dynamics of the potential economic impact has been mixed. Walters (2008) highlights the 1984 Los Angeles Olympics being the first to generate a profit (£215 million), as a result of their sponsorship

focus. However, Emery (2001) and Baade and Matheson (2004) point out that despite the 1992 winter Olympics objective of breaking even and the 1994 football world cup target of making a profit, both culminated in an economic loss (£4.2 billion and £20 million respectively). Baade and Matheson (2004) further highlight that the 1996 Olympic Games underachieved the initial job creation prediction, due to not taking into account the decrease of spending by local residents. Nevertheless, in more recent examples, UK Sport (2006) indicate that sporting events such as the 2006 Rowing World Cup, UEFA Under-19 Football Championships, Women's World Cup Cycling Grand Prix, European Event Championships, World Youth Sailing Championships and the World Rowing Championships, generated a combined total of £6.512 million, thus supporting the argument that evidence of the economic impact is mixed.

According to Gratton, Liu, Ramchandani and Wilson (2012), literature on the economic impacts of hosting major sport events has been progressively controversial. Mackellar (2014) highlights the existence of empirical research which proposes that whilst there is a potential economic benefit for the host populations, the cost of hosting the event could outweigh the benefits. This has been shown for major events (Taks et al, 2011), college sports (Baade et al, 2008, 2011) and mega events (Preuss, 2004). Nevertheless, it is seen that many governments have identified the hosting of major sports events as a key part of their national sport policies (Gratton, Liu, Ramchandani & Wilson, 2012), emphasising the importance attributed by nations to the hosting of these. Siegfried and Zimbalist (2000) found no evidence as to the economic impact of the investment in such infrastructure. Preuss (2007) states that according to the available empirical evidence, the evaluation of the overall economic impact of large scale (mega) events such as the Football World Cup and the Olympic Games, is difficult due to the multitude of channels at work. An example of such challenge is seen in the attempt to calculate the consumption of the attenders of the event, where opportunity costs of residents that leave the city during the event and of crowded-out visitors must be included (although very complex to measure) (Preuss et al, 2007). However, Hall (2004) and Gratton et al (2005) acknowledge that competition

from cities throughout the world has increased due to the claimed immediate economic benefits and the long-term legacies. For example, Poynter and MacRury (2009) emphasise that the hosting of 2004 Athens Olympic Games resulted in a renewal of the host city/nation's infrastructure and image.

Previous research around the hosting of major sports events is largely linked to their economic impact (Preuss, 2007; see Appendix A), with the subsequent assumption that they *"deliver a broad range of economic, physical, social and sporting outcomes to local communities lasting beyond the duration of the event itself"* (Ramchandani et al, 2015, p1). However, UK Sport and SIRC (2012) highlight that *"not all events that are 'major' in sporting terms will also be 'major' in economic terms"* (p8). Nevertheless, major sports events are not just simply about generating revenue (Heere et al, 2013). Evidently, there is a clear gap in knowledge concerning the social impact of attendance at major sporting events in terms of increasing sport and physical activity participation (see Appendix A). Chalip (2006) acknowledges that the social aspect of any major sporting event is also extremely important to consider.

2.2.3 Social Impact

There is growing literature on the social and other benefits of major sport events (Chalip, Green & Hill, 2003; Chalip, 2004; Chalip & Costa, 2005; Smith, 2005; Liu & Gratton, 2010). Crompton (2001) and Liu and Gratton (2010) have argued that the social benefits may in the long-term be greater than the short-term economic impact generated by the spending of visitors to major events. The social impacts of a major sports event are multidimensional and may be defined as both the negative and positive consequences that occur as a result of its hosting (Ritchie, Shipway & Cleeve, 2009; Balduck et al, 2011; Liu, Broom & Wilson, 2014). However, these may take place pre, during and/or post-event, and may be short or long term (Taks, Chalip & Green, 2015), ultimately varying depending on the event. According to Schwarz et al (2017), the social impact of a major sporting event may be assessed through the evaluation of sport facilities or events on the attitudes, interests, behaviour, organisation social movements, political systems and health or economic

wellbeing of the host populations. Fredline (2005), Getz (2005), Kim and Petrick (2005), Ohmann et al (2006), Kim, Borges and Chon (2006), Bull and Lovell (2007), Balduck et al (2011) and Liu (2016) state that the perceived social impact by a host community allied to the hosting of sporting events, has been gaining increased importance in research. Evidence supporting Chalip (2006) and Heere et al (2013) is seen by the findings where residents of host and neighbouring communities (Deccio & Baloglu, 2002; Andersson et al, 2004; Kim, Borges & Chon, 2006) and event organisers (Kim & Uysal, 2003) point to the social impacts as the main source of potential event value. Nevertheless, perceptual evidence is limited to the measurement of intention/attitude and not actual behaviour change (Liu, 2016). Liu's (2016) study examined the perceived social impact by host city residents, and thus did not examine the impact on major sport event attenders. In order to truly examine the benefits, samples should focus on event attenders, as they experience the event first-hand.

The positive benefits include infrastructure development, urban regeneration, enjoyment and quality of life, community pride, improved image and reputation, tourism and economic development, and social and cultural benefits (Chalip, 2006; Solberg & Preuss, 2007; Gratton & Preuss, 2008; Walters, 2008; Florek, Breitbarth & Conejo, 2008; Kaplanidou & Karadakis, 2010, 2012; Liu, Broom & Wilson, 2014; Trotier, 2017). The negatives on the other hand encompass potential crime, inconvenience, environment pollution and price inflation (Mangan, 2008; Karadakis & Kaplanidou, 2012; Liu, Broom & Wilson, 2014). Walters (2008) exemplifies both dynamics with the testimony of three participants (host city residents) of the Los Angeles Olympic Games and the Sydney Olympic events, where in highlighting their excitement and pride in taking part in the events (Chalip, 2006), one of the participants also reported having felt unsafe during the event when approached by an individual who was wrongly perceived as someone who would cause harm.

Despite the positive social impacts, the 1996 Atlanta Olympic Games highlighted its negative side. According to Malfas et al (2004), 15,000 residents

were forcefully evicted from public housing projects which made way for the development of the Olympic accommodation. They further acknowledge that support to the poor and homeless was diverted in order to prepare for the Olympic Games (Malfas et al, 2004). Other evidence from the Centre on Housing Rights and Evictions (COHRE, 2007) highlights that other Olympic Games such as 1992 Barcelona (Spain), 2000 Sydney (Australia), 2004 Athens (Greece), 2008 Beijing (China) and 2012 London (UK) experienced impacts on housing and consequently had many families evicted or displaced from their homes. Getz (2005), Greene (2005) and Ohmann et al (2006) further acknowledge the displacement problem that may occur, with Greene (2005) showing that for the 1988 Seoul Games, 48,000 houses were removed for the torch pathway, which resulted in 72,000 residents evicted (90 percent of which did not receive compensation). Evidently, the types of social impacts which may potentially occur as a result of hosting a major sporting event are not exclusive of one another.

Physical and mental health are key components when discussing sport and physical activity participation. Reducing physical inactivity is a sought-after outcome for policy makers who see it as a method to reduce or prevent its negative health effect often linked to various types of diseases and its contribution towards life expectancy (Lee, Kyle and Scott, 2012). According to Ramchandani et al (2017b) many countries are experiencing a rise in levels of physical activity, with substantial implications in terms of chronic diseases and the general health of the population globally. They go further by suggesting that should hosting major sporting events prove to be successful 'interventions' from which sport and physical activity participation can be leveraged, then there is a clear scope to realise the health benefits for both individuals and society in general (increased sense of wellbeing). A report by the European Commission (2016) on grassroots sport has acknowledged the value and importance of sport and physical activity in terms of their role in tackling negative health conditions such as obesity and chronic diseases. Furthermore, they encourage medical professionals to prescribe sport and physical activity instead of medication when suitable. Thus, this highlights the importance

attributed to sport and physical activity, and the crucial role it may have in contributing towards different positive social impacts, with Davies, Taylor, Ramchandani and Christy (2019) supporting this by estimating the value of health benefits associated with the sport participation in England to be over £5 billion in 2013/2014.

Ramchandani et al's (2017b) study focused on the potential health benefits of major sports events in relation to promoting the primary activity that they showcase (sport) and found that, in order to get a more robust understanding of the consequences associated with hosting these events, potential negative health implications should also be examined. They state that this would undoubtedly facilitate more effective, evidence-based, policy decisions regarding public investment in sports events.

The BS8901 sustainable management standard published in 2007 for events from 'non-major' to 'mega' magnitudes places emphasis on *"improving the social impact of an event through community involvement"* (Walters, 2008, p16). It could thus be suggested that the social impact of any major sporting event is an essential part of any bid (Chalip, 2006), emphasising the weighting of the social influence. The evidence highlights a gap in the current literature with regards to the extent of the social impacts as a result of hosting major sport events, particularly how attendance of major sporting events contributes towards attitude and behaviour change.

2.2.4 Cultural Impact

The European Communities (2007) state that a 'cultural impact' is the effect or consequence of an event, on the acquisition of knowledge, encompassing benefits such as 'feeling of belonging', 'increase of cultural level', 'elimination of illiteracy for the community' and 'improved intercultural communication'. Major sporting events, due to their international nature, offer the opportunity for different cultures to come together, which includes 'norms', 'beliefs' and 'values', which play a vital role in society (Konstantaki, 2008). Cultural impacts may occur through both sporting and non-sporting activities, embracing the

education, arts and other cultural events which surround the main sporting event. However, not all major sporting events will have non-sporting activities taking place; therefore, the cultural impact may differ.

The Olympic Games are a good example of a sporting event that offers the unique opportunity to combine the promotion of both the practice of sport and the Olympic values (respect, tolerance, participation, fair-play and solidarity), and education among the host city/nation (Frey et al, 2007). Cultural events have the potential ability to generate a significant influx of tourism, when these events cater to external visitors (Getz, 1999). Evidence provided by Purnell (2007) supports Getz (1999) by highlighting that a Cultural Olympiad developed as part of the Sydney 2000 Olympic and Paralympic Games, resulted in a 30 per cent increase in visitor participation in cultural activities. However, Raj (2003) points out that in order for there to be an opportunity for community empowerment and celebration of local identity, the events should be local community focussed rather than tourism orientated.

Maunsell (2004) reported an increase in participation in sporting activities (including competitive sport and casual related games) as a consequence of Manchester hosting the 2002 Commonwealth Games (see table 2.1). However, MORI (2004) pointed to a 2-percentage point decrease in sport participation (four or more times in the past four weeks except walking) and highlighted to the increasing gap between participation rates of both affluent and deprived areas. Moreover, this raises the issue of causality (see section 2.3.5), since there seems to be an acceptance that the 2002 Manchester Commonwealth Games were successful in increasing participation in various sporting activities, however, measurements were conducted straight after the event via survey. In other words, the measured effect was temporary and therefore limited to the euphoria which is short-term. Evidence is therefore mixed, which could mean that hosting major sporting events does not constitute increased sport participation and/or recreational activities in the host communities. Strategies should therefore be implemented alongside the hosting of a major sporting event to maximise both the social and cultural

impacts. These may also be in the form of activities surrounding the event, which do not necessarily focus on partaking in the sport but just being involved in some other capacity. As MORI (2004) highlights, there was a decrease in participation two years post-event, and therefore initiatives/interventions should be implemented to maximise the opportunities available. Table 2.1 below shows the indicators used in evidence by Maunsell (2004).

Table 2.1 - Adapted from Maunsell (2004), p23

Increased participation in sporting activities: Indicators
10,000 young athletes participated in the Sport England Active Sports Talent Camps
The National Squash Centre has a citywide programme to introduce 6,000 school children to the sport each year.
75,000 children from 3,000 schools across the UK participated in 817 mini Commonwealth Games
13,500 young people aged 11-18 participating in 'Passport' events across the Northwest
4,456 young people took part in the 2002 school holiday programmes held at Belle Vue Hockey Centre, the Indoor Athletics Centre and The National Tennis Centre
A coaching programme for juniors has been established at the National Tennis Centre
50,000 new users registered at new facilities during Jan-May 2003.

As shown in table 2.1 above, there are a number of activities that are often associated to a major sporting or non-sporting event, which may experience an increase in participation as a result of the euphoria surrounding the major event. As Brown et al (2017) suggest that the decision by the Life Centre in Plymouth to include as many Olympic sports (to form part of the 2012 London Olympic Legacy) may be regarded as an example of additionality, resulting in a thematic analysis that would not have been possible without the London 2012 Olympic Games (Weed, 2014). Nevertheless, simply hosting major sports events will not guarantee long-term economic, social and cultural

benefits, event leveraging needs to be implemented further to the hosting of the event.

2.2.5 Leveraging

Leveraging, also known as strategic planning for event outcomes, focuses on the means to obtain desired social, economic and/or environmental objectives through the inclusion of each event into the host community (Chalip, 2014). Taks, Misener, Chalip and Green (2013) state that the emerging focus on event leveraging recognises that the outcomes from events depend not only on simply hosting the events, but on how these are used to rendered desired effects. Additionally, major sports events occur on a more frequent basis in relation to mega events and are accessible to a wider range of host cities, consequently making them more relevant as a tool to create long-term benefits for the host communities (Taks, Misener, Chalip & Green, 2013).

Nevertheless, there has been a growing number of studies such as Taks (2013) and Welty Peachey et al (2015) which have researched the maximisation of outcomes in smaller events. Misener (2015) suggested that smaller events have a superior potential for leveraging social issues in comparison to mega-events. A reason for this is that smaller events lack the significant capital expenditure and financial risks associated with mega-events, ultimately meaning the focus for leveraging strategies do not need to be prioritised around justifying large investments (Smith, 2012). Furthermore, with smaller scale events there is the potential for tighter social networks and connections with the local community (Misener, Taks, Chalip & Green, 2015). Utilising local infrastructure and community resources, small-scale events have an increased probability of maximising the direct benefits for their host communities in comparison to a mega-event (Smith, 2012; Ziakas, 2015).

Previous research (Chalip & Leyns, 2002; Chalip, 2004, 2006, 2014; Fairley et al, 2016) has highlighted the importance of leveraging events in order to successfully maximise the probability of long-term benefits to the host nation and its community. Thus, the various potential long-term benefits will not occur simply through social osmosis, meaning the indirect infusion of social or

cultural knowledge. This would imply that a major sport event attender would acquire knowledge of a social phenomenon by diffusion from the experience of others around. The concept of leveraging was first introduced to the sport mega event arena by Chalip (2004), defining event leveraging as the identification of *"strategies and tactics that can be implemented prior to and during an event in order to generate particular outcomes"* (Chalip, 2006, p112), however, with a focus on integrating the community (Taks, Chalip & Green, 2015). Chalip (2004) further states that the short-term financial gains are attributed to tourists who consume at local businesses during their stay, whereas the long-term benefits are attributed to the international media exposure of the event. The latter, if leveraged effectively, enhances the host nation's image and promotes imminent tourism post event (Chalip, 2004). Weed et al (2012) and Potwarka & Snelgrove (2013) suggest that event leveraging is based on the statement that a combination of an implementation of interventions designed to promote sporting opportunities and an influence of staging an event, will more likely result in increased participation levels. By effectively promoting the event and other connected activities; there is an increase in the maximisation of the impacts. The 2005 Pan American Junior Athletic Championships and the 2005 Canadian National Figure Skating Championships demonstrated a general belief of increasing the number of new participants, however the focus was clearly on active individuals Taks, Misener, Chalip and Green (2013).

Weed et al (2012) argue that there is no inherent legacy as in order for there to be one, proactive leveraging through strategy and investments needs to occur (Chalip, 2006; Smith & Fox, 2007). However, this may be due to the fact that some sort of connection may be a prerequisite for the effect (Weed, 2012). Grix, Brannagan, Wood and Wynne (2017) highlight that the London 2012 Olympic and Paralympic Games were the first to implement leveraging strategies in order to achieve increased participation as a legacy outcome. However, Active People Survey (APS) data from 2005 to 2015 suggests that London 2012 did not result in increased levels of sports participation. Thus, whilst there is a positive discourse surrounding the hosting of major and mega

sporting events in order to achieve participation legacy outcomes, evidence points to an overestimation of the outcomes. Empirical data indicates that simply hosting sports events and planning leveraging strategies will not automatically result in a long-term positive change in behaviour. Taks, Misener, Chalip and Green (2013) found no evidence of clear and defined strategic intentions or plans to leverage events to foster sport participation. The leveraging actions were more of a coincidence than planned for (Taks, Misener, Chalip & Green, 2013). Therefore, if the 2012 London Games were to generate a sport and physical activity legacy, then a different approach such as effective leveraging (including policy) would have been needed to potentially do so.

A major sporting event is viewed as a resource/asset that provides opportunities for economic growth (Derom & Ramshaw, 2016). Fairley et al (2016) point out that the 2015 AFC Asian Cup provided the host nation (Australia) and the respective host cities with an opportunity to leverage the sporting event in order to increase: tourism (from Asian countries to the host nation), trade and investment (with participating Asian nations), and engage Australia's culturally diverse communities (Fairley et al, 2016). However, whilst it may provide opportunities for leveraging and potentially result in positive outcomes, if there are a lack of strategies in place, and these are not effectively implemented, it will most likely result in missed leveraging opportunities (Taks, Misener, Chalip & Green, 2013). Leveraging strategies such as facilitating social contact through the design of safe and open spaces and providing informal social opportunities may be useful in maximising an event's social outcome potential (Spaaij & Schulenkorf, 2014, Welty Peachey, Borland, Lobpries & Cohen, 2015). Nonetheless, providing event-related festivities to enhance the overall event atmosphere may serve as a way of attracting a larger audience and non-event attendees into the event area (Schulenkorf et al, 2017).

In the particular case of Fairley et al's (2016) study, the sporting event was used as a celebration of football, whereby serving as a catalyst for the

development of strategies to successfully achieve the legacies previously mentioned. This was achieved through effective planning of various areas including trade and investment, by establishing networks that incorporated political, business and community-related engagement (Bubalo, 2005). However, one could question whether leveraging is always effective, as Chalip, Green, Taks and Misener (2017) point out, leveraging requires the input of physical, financial and human resources, which may not always be available. Ziakas (2015) highlights that a process-oriented approach to leverage which aims to engage the local community, increase general awareness, build capacity for implementing effectively event leverage and balance the planning of leveraging initiatives. Thus, *“a bottom-up planning process can integrate the divergent forces for change and thus deliver sustainable benefits to the host community contesting inherent or emergent inequalities”* (Ziakas, 2015, p692). However, Chalip (2014) states that leveraging does not need to be the responsibility of the event organising committee, since it is a temporary establishment primarily focused on the successful delivery of the event. Additionally, this establishment often will not have the necessary resources or connections with other sectors to achieve effective leverage (Chalip, 2014).

Mackellar (2015) researched three regional sports events and identified tourism as one of the determinants of business leveraging. Pereira et al (2015) showed that tourism can be enhanced through strategic leveraging of six nautical small-scale sports events in a city in Portugal. This was accomplished by having a strategic goal (enhance the host destination image) clearly defined, implemented and monitored, and not just a policy in documents (Pereira et al, 2015). Derom and Ramshaw (2016) conducted research at the Tour de Flanders Cyclo, an event associated with gaining worldwide popularity and therefore attracting sport tourism. They found that the heritage of a sport event and the location where it is hosted may motivate international active sport tourists to travel and participate in the event.

Derom and Ramshaw (2016) acknowledge that sport tourism is widely identified as a prime element in the event leveraging arena. They suggest that active sport tourism events should employ sport heritage as a tool to leverage future tourism development initiatives (Derom & Ramshaw, 2016). In order to achieve this, a greater focus should be placed on the leveraging potential of resources embedded within the tourism destination, including an event's heritage, atmosphere and route. Nevertheless, Smith (2014) and Ziakas (2015) are both sceptical and critical of the leveraging of mega sport events and the promise of future legacies. Smith's (2014) scepticism is based on the possibility that leveraging initiatives may be adopted and publicised for the sole purpose of public relations, in order to erase any criticisms surrounding event projects and therefore justifying public investment. Chalip (2014) highlights that leveraging should be the responsibility of the non-event community; however, Ziakas (2015) acknowledges that leveraging is most likely to involve a cost, consequently making it difficult for effective non-event community leveraging.

Lane et al (2013) researched the leveraging of a community event for increased physical activity and found that targeted communication and community engagement are essential for leveraging success. Moreover, the more interventions in place, the better the effectiveness in the outcomes (Lane et al, 2013). Derom and VanWynsberghe (2015) found that the leveraging initiatives designed to increase physical activity and health benefits for cycling enthusiasts and local children were strategically prolonged. Ultimately, Lane et al (2013) suggested that annual small-scale events generally appear to be better equipped to in the long-term encourage physical activity and regularly remind people about the health benefits of physical activity. Misener (2015) states that factors such as targeted and measurable goals for leverage are key for developing leveraging strategies.

The research conducted by Chalip (2004; 2006), in which an uncertain definition of goals and objectives, and a lack of coordination prompted

insufficient implementation processes, which failed to grasp opportunities (see figure 2.2 below).

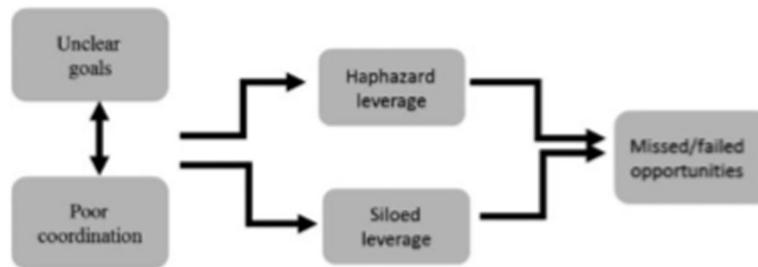


Figure 2.2 - Scheme of the strategic leveraging process: sequence of factors leading to leveraging inefficiency (adapted from Pereira et al, 2015)

Chalip, Green, Taks and Misener (2016) emphasise that for effective leveraging to occur, there needs to be collective action. They found that a shared strategic vision is viewed as a prerequisite for any leverage. The model shown in figure 2.3 below presumes that there is sufficient commitment between stakeholders, that goals have been delineated so that a strategy can be developed and implemented.



Figure 2.3 - Model for leveraging sport events for sport participation and development (Chalip, Green, Taks and Misener, 2016, p5)

According to Chalip, Green, Taks and Misener (2016), in order to achieve sport participation and development goals, knowledge and both physical and human resources need to be implemented. Sporting events are unlikely to generate increases in sport and physical activity participation merely by hosting. However, there are opportunities to utilise the events to generate sport and physical activity participation should the necessary strategies and tactics be put into place (Chalip, Green, Taks & Misener, 2016). There is a paucity of evidence on the leveraging strategies implemented by major sport event stakeholders (Schulenkorf & Schlenker, 2017). Addressing this gap in knowledge is essential because while events provide excellent leveraging opportunities, they are complex projects which do not always reach their potential because of strategic misalignment (Jago et al, 2003), unresolved differences between stakeholders (Singha & Hub, 2008) and ineffective media strategies (Li & Kaplanidou, 2013).

Nevertheless, leveraging in relation to changes in sport participation and physical activity of major sporting event attenders involves analysing key indicators of behaviour change which include both the affective and cognitive mechanisms. According to Potwarka et al (2017), a limited amount of empirical evidence has been offered into behaviour change mechanisms (affective and cognitive), which may inform the development of leveraging initiatives to sport events. In specific, concerning the knowledge of both cognitive and affective characteristics of spectator experiences that influence the individual's participatory responses to an event which may add value to the design of leveraging strategies. Thus, there is a need to research both the mechanisms of major sport event attenders, and the leveraging effectiveness and implementation of any leveraging strategies from event stakeholders.

2.3 The Inspiration Effect

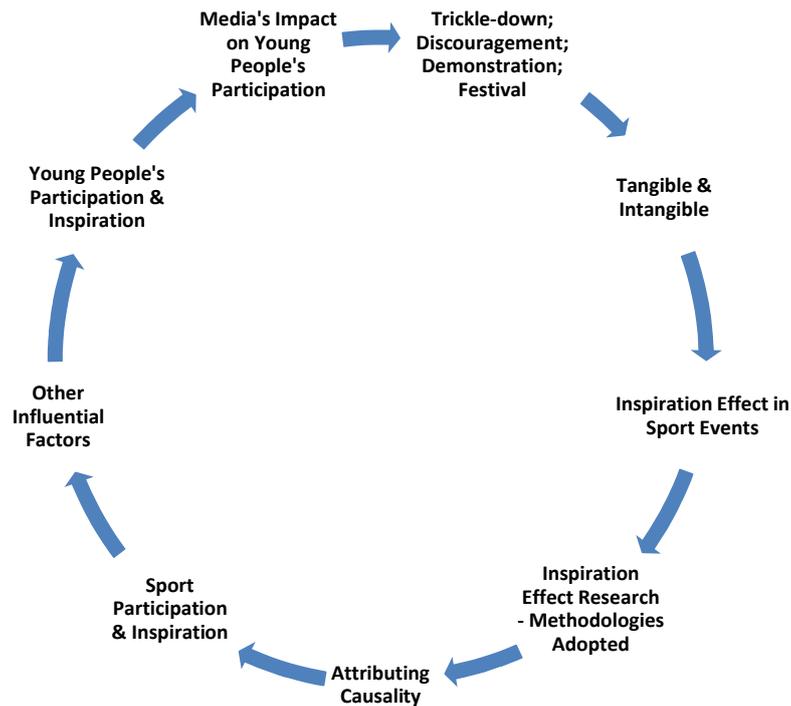


Figure 2.4 - Mapping of section 2.3

2.3.1 Trickle-down, Discouragement, Demonstration & Festival Effects

The inspiration effect has been defined as being a motivator/influence which contributes to a positive change in behaviour (Bowles, Rissel & Bauman, 2006; Lane et al, 2008; Crofts et al, 2012); whilst Thrash and Elliot (2003) define inspiration as a psychological construct (measured by both an enduring personality and a temporary state of being). Sports events are considered to have the potential to act as catalysts which drive its attendees to a prospective increase in sport and/or physical activity (Weed, 2009; Ramchandani & Coleman, 2012; Ramchandani et al, 2015; Ramchandani et al, 2017).

The overarching effect, when specifically analysing sporting events, is commonly known as the 'Trickle-down Effect' (Hogan & Norton, 2000; Sotiriadou et al., 2008). Academics have attributed a different name to the 'Trickle-down Effect', namely the 'Demonstration Effect' (Weed, 2009). The effect in the context of sport is defined by Weed as *"a process by which people are inspired by elite sport, sports people or sports events to participate themselves"* (2009, p4). Thus, it is an impact resulting from (or directly linked

to) elite athletes (sport stars viewed as personalities), athlete performances and major sport events (Wicker & Sotiriadou, 2013; Weed et al, 2015).

When analysing the 'Trickle-down Effect', Feddersen, Jacobsen & Maennig (2009) suggest that sports events offer dual representations of the dynamics, where elite sports people may act as inspirational figures but can also deter people from participating, as the level at which they perform may be seen as impossible to attain (Hindson, Gidlow & Peebles, 1994), commonly known as the 'Discouragement Effect' (Van den Heuvel & Conolly, 2001). The effect is evident when an individual is influenced by the behaviour of others (Wicker & Sotiriadou, 2013; Weed et al, 2015; Potwarka, 2015).

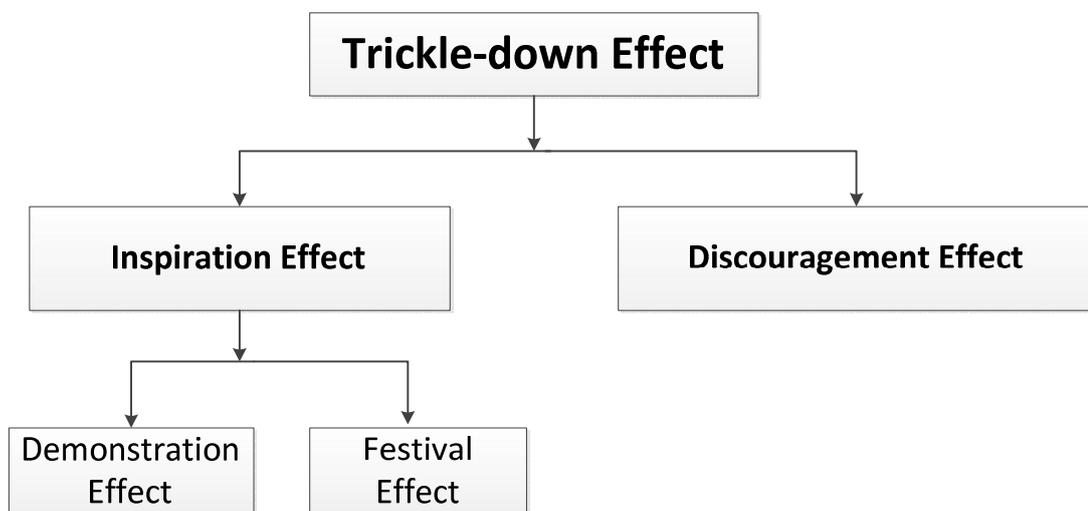


Figure 2.5 - Trickle-down Effect breakdown

The 'Inspiration Effect' may be categorised into two subgroups, notably Demonstration and Festival Effects, as shown in figure 2.5 Whilst the demonstration effect involves solely the influence attributed by elite sport to the potential participants (primarily already active people), the festival effect embraces the community factor (Weed et al, 2009, 2012). The community factor engenders a desire in people to be part of something that is significant on a large scale (Weed et al, 2012). Weed et al (2012) state that the significance of the festival effect for physical activity legacies is that *"the desire to participate might be satisfied by initiatives involving physical activity, particularly in the community"* (p78). The initiatives developed with the aim of

creating a festival effect, seek to activate/trigger a desire to be part of an overall celebration. Chalip (2006) supports this by suggesting there is a sense of something more significant, therefore a something that transcends the sport that is being played. Ultimately, a national festival is created through the various activities that make up the main sporting event. The festival effect is generally aimed at the non-active or less active people who have a negative perception of sport and physical activity participation (Weed et al, 2011). Nevertheless, the festival effect is more likely to be less significant for major sporting events that are of short duration, in comparison to events which are hosted over a longer period of time.

2.3.2 Attitudinal and Behavioural

Inspiration at its initial stage is intangible, presenting a desire or intention (Weed, 2009). Weed et al (2012) propose that major sport events have the potential to activate a 'desire' to take up sport and/or physical activity, or participate more frequently (Ramchandani & Coleman, 2012). However, a legacy investigation of mega sport events by Coalter (2004) and a review of the impacts of previous mega sport events by Weed (2009) found that the Trickle-down Effect does not inspire people with a non-existent sporting background to take up a sport. Nevertheless, evidence suggests that the effect can encourage those who are already active to increase their participation frequency; those who have become sedentary to participate again; and switch between sports (Weed, 2010). However, Weed (2010) highlights that there is no evidence that a demonstration effect will work with both active and inactive people. Data collected by Wicker and Sotiriadou (2013) on the Melbourne Commonwealth Games (2005-2006) regarding the potential benefits of hosting the major sports events and the influence of the 'demonstration effect' on spectators showed that groups such as young people, females and less educated people were the prime beneficiaries.

Evidence points towards a potential causal relationship; however, the studies adopted completely distinct research designs. Ramchandani et al (2015) applied a survey design to nine sports events, whereas Wicker and Sotiriadou

(2013) used data from the Exercise, Recreation and Sport Survey (ERASS) in Australia, which between 2005 and 2006 included a set of questions regarding the 2006 Melbourne Commonwealth Games. Table 2.2 below provides an overview of the control for variables applied by the studies mentioned above. The independent variables used enable the identification of attitudinal and behavioural changes whether these are pre-, during and/or post-event.

Table 2.2 - Overview of variables used by the studies above

Study	Variable	Description	Dependent / Independent
Wicker & Sotiriadou (2013)	<i>More time participating</i>	'Person has spent more time participating in activity for exercise, recreation, and/or sport'	Dependent
	<i>New activity</i>	'Person has taken up new activity for exercise, recreation and/or sport activity'	Dependent
	<i>Positive attitude</i>	'Influence on attitude' [more negative or no difference; more positive]	Dependent
	<i>Population characteristics: age group, gender, education, work hours, children, relationship, origin, state and year</i>	'15-24; 25-34; 35-44; 45-54; 55-64; 65+', 'female/male', level of education: [still at school, no secondary education, high school, certificate/trade qualification or undergraduate diploma, university degree], 'number of working hours per week'	Independent
Ramchandani et al (2014)	<i>Inspiration</i>	3-point scale: 'not inspired, inspired or strongly inspired'	Dependent
	<i>General sport participation</i>	'Active' or 'inactive'	Independent

	<i>Importance of sport</i>	'Important' or 'not important'	Independent
	<i>Sport specific information</i>	'Participant' or 'non-participant'	Independent
	<i>Respondent demographics: gender, age group, disability, residence, ethnicity.</i>	'Male/Female', '16-24; 25-34; 35-44; 45-54; 55-64; 65+'. 'disabled/non-disabled', 'host city/area or other UK/overseas', 'UK White or BME/overseas'	Independent
Ramchandani et al (2015)	<i>Changes in sport participation</i>	5-point Likert scale: 'Much more, slightly more, about the same, slightly less and much less' → Increased, stayed the same or reduced post-event.	Dependent
	<i>Inspiration effect</i>	5-point Likert scale: 'Strongly agree' to 'strongly disagree'	Dependent
	<i>Event influence & other impact factors</i>	Ordinal scales: 'very influential, moderately influential, slightly influential and not at all influential'	Dependent

Further evidence indicated that from a total of 12,993 people surveyed both in 2005 and 2006, 6.9 percent of respondents stated that they spend more time participating in activities for exercise, recreation and/or sport as a consequence of Melbourne hosting the Commonwealth Games (CGs), with 5.9 percent claiming that it motivated them to take on a new activity (Wicker & Sotiriadou, 2013). However, the definition of 'spend more time participating' was not given, and as a result, participants' answers were based on their own perception of the measurement rather than a specific value.

Appendix B clearly illustrates the plethora of studies which have based their analysis on attitudinal changes, however it highlights the lack of research measuring actual behaviour change of major sport event attenders. Ramchandani et al (2017b) extended their remit from attitudinal

(Ramchandani et al, 2017a) and have examined changes in sport participation changes of major sporting event spectators, applying post-event follow-ups to the baseline data from Ramchandani et al (2017a). They found small net positive staged change in sport participation in the sample as a whole, underlining the trickle-down or demonstration effect as the key mechanism which supported by the major sporting events, resulted in any sport participation legacy. Potwarka et al (2017), highlight that inspiration may be a dominant tool by which exposure to an elite sport event might influence decisions to try the sport being showcased. However, they further suggest that the event attenders must feel a sense of inspiration whilst watching the event in order to for a behavioural intention (Potwarka et al, 2017).

2.3.3 Inspiration Effect of Major and Mega Sports Events

2.3.3.1 The Trickle-down Effect of Elite Sport/Athletes/Medal Success

The intention with the London 2012 Games was to harness the United Kingdom's interest for sport and create an environment which encompassed both the festival and demonstration effects (Weed et al, 2015). The sporting event was arguably regarded of prime interest, by both active and non-active participants, who had the desire to take part in the celebrations. However, evidence suggests the London 2012 Games were efficient at targeting the active participants, whereas there was little effect on the non-active (Weed, 2014). Moreover, Weed et al (2015) state, there was no inherent demonstration effect, and rather a potential effect that needs the leveraging of other supporting activities. Further evidence may be seen with the 2004 European Football Championship in Portugal, where despite an increase by 21 percent in sport participation nationally between 2003 and 2005; football (the sport showcased) only experienced a 2.6 percentage point increase (even though Portugal reached the final). However, according to OECD (2016), Portugal's population has also increased (10.46 to 10.50 million) in the same period, therefore supporting Ramchandani et al's (2015) assertion regarding the issue of attribution of causality to major sports events. Furthermore, UK

Sport and SIRC (2012) suggest that there are other *"causal factors beyond the control of a major event that determine whether people translate any sense of inspiration into actual behavioural change"* (p8), further highlighting the challenge in attributing the inspiration effect to a specific sporting event.

Using the 2015 Pan Am Games' Track Cycling competition, Potwarka et al (2017) were able to empirically demonstrate that people's feelings and thoughts while watching the live sports event, may have an influence in the decision to try or not the sport on display. However, they failed to explore the extent to which 'intention' translated into actual cycling behaviour. Ramchandani et al's (2017b) concluded that a major sporting event in isolation is no guaranteed recipe to raise sport participation (Weed et al, 2009). Ramchandani et al (2017b) suggest that patterns of behaviour change are not linear and therefore are subject to change over time, different conditions, individual choices and life experiences. Assuming this point is accepted, the sport participation legacy of a major sport event is confined to a sense of inspiration/'intention' to increase participation or the feel-good factor, which lacking targeted initiatives, is more likely to not develop into continued increases in sport participation. Nevertheless, major sport events may act as potential catalysts to positively change sport and/or physical activity behaviour, with the appropriate leveraging.

2.3.3.2 The Impact of Attending Events

Inspiration related to sports events is defined by Ramchandani et al (2015) as *"any subsequent change in sports participation behaviour...as a result of attending/watching a major sport event"* (p2). The inspiration effect of major sport events may thus be regarded as the stimulation provided by a major sports event to a spectator of the event (Craig & Bauman, 2014; Weed et al, 2015; Potwarka et al, 2017). The stimulation is perceived as the motivation given to the event attendees to increase their participation in sport/active recreation (McCartney et al, 2010; Weed et al, 2009, 2015). However, Vanden Heuvel and Conolly (2001), and Potwarka (2015) argue that the reverse effect may also occur when attending major sports events.

UK Sport and SIRC (2011, 2012) investigated the extent to which major sport events have the potential to inspire participants in increasing the amount of sport and physical activity in which they participate and concluded that whilst major sport events have the potential to encourage the attendees to increase their levels of sport and/or physical activity, there are no guarantees that such intent would translate into actual behaviour change. Ramchandani et al (2015) carried out research around the same principle but applied it to non-major sport events. They established that non-major sport events do have a positive Market Penetration effect, or the potential to increase the levels of those already active; however, any Market Development effects, meaning those who are non-active, are yet to be established (Ramchandani et al, 2015). Ramchandani et al (2015) revealed that there were *"different types of increases in post-event participation behaviour of both previously active and inactive respondents, including 'initial', 'sustained' and 'lagged' effects"* (p1). Both studies came to the conclusion that there is a gap in trying to measure the inspiration effect from a particular sports event, thus highlighting the fact that determining a causal relationship has proven to be difficult because of multiple sources of uncontrolled factors (Ramchandani et al, 2015).

Weed et al's (2015) study found that,

"there is no evidence for an inherent demonstration effect, but a potential demonstration effect, properly leveraged, may deliver increases in sport participation frequency and re-engage lapsed participants" (p195).

Whilst hosting major sports events may not necessarily cause an increase in participation, they could act as catalysts if appropriately leveraged. This leveraging is not caused by simply hosting the event, but rather there could be other factors (i.e. positively promoting elite sport) that if effectively put into action, may enhance the benefits gained. In the case of the London 2012 Olympic and Paralympic Games, the UK government was not successful in their attempt to use it to increase sport participation. It overlooked the fact that there is no inherent evidence from previous sports events supporting an inherent demonstration effect. Despite setting out a clear target for increases

in sport participation frequency (DCMS, 2009), limited action was made regarding policies to leverage the stimulus of the demonstration effect (Weed et al, 2015), in which the government so heavily put belief and investment in. Additionally, the impact of the demonstration effect via TV should be considered due to its large mediated reach.

2.3.3.3 The Impact of Watching Events on TV

The impact of other factors that may affect sport and/or physical activity participation should also be taken into consideration. The other most prominent factors are: 'trying sport in a non-threatening environment (with other experienced people)'; 'attending another major sports event or events'; 'watching another major sports event or events on TV'; and, 'information I have received or obtained about sports I can do where I live at a level appropriate to my fitness ability' (Ramchandani et al, 2015). These findings support the potential of the demonstration effect for increasing sport participation, predominantly among active participants. It should be noted that since 2011, the impact of media platforms such as TV, have experienced a greater influence in positive sport behaviour change (Ramchandani et al. 2015).

The various media platforms such as TV have a wider reach than sporting events (Horne, 2007; Sugden & Tomlinson, 2012), a possible reason is that sports venues are limited in spectator seats and as a consequence have limited annual spectator influence, in contrast with media platforms (Sportcal, 2016). Evidence shows that whilst a sporting event may reach thousands or tens of thousands of people in a day, TV has the ability to broadcast the sporting event to hundreds of thousands or millions of people (Maennig & Zimbalist, 2012; Muller, 2015). Evidence supporting this shows that approximately 4.7 billion viewers (equivalent to around 70 percent percent of the world's population), tuned in to watch the Beijing 2008 Olympic Games (Nielsen, 2008). Such figures represented a 31-percentage point increase from the previous 2004 Olympic Games in Athens (Nielsen, 2008), suggesting a potential stronger influence in comparison to attending live events. Therefore, it could be argued that whilst evidence shows a stronger inspiration

effect from attending live sports events, the percentage of people inspired via TV translates into a more significant influence. UK Sport and SIRC (2011) showed that 13 percent out of 34 percent of inactive TV event viewers who did not currently take part in sport, felt more inspired to do more sport after watching the sporting event or events on TV. The Active People Survey 10Q2 (2016) shows that between 2010/2011 and 2011/2012, there was an approximated 5 percentage point increase (780,000) in people participating in sport at least once a week.

A clear distinction between the impact of attending a live event and watching it on TV is evident (Hamer, Weiler and Stamatakis, 2014). There is a differentiation between inspiration attributed by attending live sporting events and watching these on TV. UK Sport and SIRC (2011) found that around 20-28 percent of TV event viewers felt inspired to do more sport or physical activity than they normally do, as opposed to 57 percent for live event spectators in the last four weeks (UK Sport & SIRC, 2012). Additionally, the inspiration effect was verified to be stronger amongst those already involved in sport and/or physical activity (Weed et al, 2015). However, there is a significant difference between the inspirational levels of the non-active live and TV spectators. Evidence shows 40 percent of live event attendees who do not participate in any form of sport or physical activity felt inspired, in contrast with 13 percent of non-active TV event viewers (UK Sport & SIRC, 2011; 2012). Therefore, it may be suggested that attending live sporting events has a greater influence on people's desire/intention to participate in sport and/or physical activity than via TV. Nonetheless, Hamer, Weiler and Stamatakis (2014) suggests that there is no direct association between watching sport on TV and a difference in physical activity levels. It can thus be argued that although the inspiration effect is present amongst both the active and inactive people, it has a tendency to be more effective impacting on those who are active (Weed et al, 2011). Research conducted on nine non-mega sport events suggests they were successful at getting active people inspired; however, more work is needed to effectively motivate sedentary sport events attenders (Ramchandani et al, 2015).

It has been established that there are different factors that may influence an individual's sport and/or physical activity participation, whether it is in the sport being showcased, or in another sport or activity. Watching a major sporting event live or on TV differs in terms of inspiration levels. Nevertheless, due to the potential presence of multiple uncontrolled external factors, determining a causal connection is difficult, highlighting the need for further research regarding the influential factors.

2.3.4 Attributing Causality

The inspirational effect may perhaps be linked to the short-term increase in participation following Lillehammer's 1994 Olympic Games and Sydney's 2000 Olympic and Paralympic Games (Hanstad & Skille, 2010; Bauman, Bellew & Craig, 2014). However, Bauman, Bellew and Craig (2014) found no significant effects regarding the 2000 Olympics on Australian adult physical activity participation (measurements taken six weeks after the conclusion of the event). Veal (2003) suggests that following the 2000 Sydney Games, seven Olympic sports experienced a slight increase, whilst nine showed a decline. Nevertheless, Hanstad and Skille (2010) acknowledge that the increased participation in the biathlon may partly be attributed to the incentives, strategies and actions of the Norwegian Biathlon Association (NSSF). Frawley and Cush (2011) and Veal et al (2012) reported an accelerated growth of the number of Rugby players in Australia, two years following the hosting of 2003 Rugby World Cup. However, Hogan and Norton (2000) found no relationship between the success of Australian elite athletes at the Olympic Games and the levels of mass participation. Coalter (2004), Vigor, Mean and Tims (2004) and Horne (2007) support Hogan and Norton (2000) by expressing the existence of a weak relationship between elite level success and increased mass sport participation.

Contradicting Boardley (2013), the findings from Ramchandani et al's (2016) study demonstrates that the inspiration effect was present following the attendance at the sporting events, with little or no trace of the discouragement effect. However, the data only measures the 'intention' or psychological pre-

disposition towards sport and physical activity, and not actual attitudinal and behavioural change.

Research by Florek, Breitbarth and Conejo (2008) concluded that alongside sport participation, the hosting of major sport events may also impact on people's attitudes. Beaton et al (2011) reported that there is positive correlation, however not causality, between attitudinal and behavioural involvement. Leeds City Council (2014) suggests through its research of the 2014 Tour de France UK stages that the sporting event inspired its attenders to participate more in sport, particularly in cycling. However, the report was published five months post-event, indicating that the data collected was obtained in a relative short period of time, and therefore encompasses a state of euphoria of the participants. Moreover, Hover and Breedveld (2015) found that the data collected at the 2013 European Youth Olympic Festival (EYOF), indicates that 94 percent of the respondents were already active in sports, whilst out of the 6 percent of non-active respondents, only 7 percent felt inspired to become more active after attending the EYOF. Therefore, the majority of attenders had already a positive predisposition towards support (active), making it difficult to attribute any degree of certainty to the 2013 EYOF and the 2014 Tour de France UK stages.

Studies such as UK Sport & SIRC (2011, 2012) acknowledge an increase in the 'inspiration effect', with results indicating sporting event participants potentially doing more sport (at least 1x30min between 1-11 days and 3x30min/ week for the most active) and/or physical activity. Mahtani et al (2013) highlight there is some evidence, although scarce, that supports the idea that hosting an Olympic Games will lead to a direct increase in sport and/or physical activity participation. Moreover, Ramchandani & Coleman (2012) draw attention to the fact that a scarcity of evidence does exist in relation to the sustainability of the inspiration effect. Another limitation in the existing literature is the lack of measurement concerning the verification of the attribution of the inspiration effect to a particular event (Ramchandani et al, 2017a). The question is therefore both recurring and clear: can we attribute

causality of the inspiration effect to a particular sports event? (Ramchandani et al, 2015). So far, it has been extremely difficult, if not impossible; to determine such cause and effect from the attenders' latest or previously attended sporting events (Lera-Lopez & Rapun-Garate, 2007; Wicker, Breuer & Pawlowski, 2009; Downward & Rasciute, 2010; UK Sport & SIRC, 2011). Nevertheless, it is important to analyse the methodological approaches by the studies thus far, allowing for further identification of limitations.

2.3.5 Inspiration Effect Research - Methodologies Adopted

There are a plethora of studies that have looked at participation at sports events and sport and/or physical activity levels. The approaches adopted vary, however they all investigate the same variable, namely the 'inspiration effect'. An analysis of these studies demonstrates that they are primarily survey based (pre, during and post event), in the testing of the 'inspiration effect' present on the attendees of the major sporting events (Lane et al, 2008; UK Sport & SIRC, 2011, 2012; Ramchandani & Coleman, 2012; Ramchandani et al, 2014; Ramchandani et al, 2015). However, they are largely based on during and post-event evidence. All of the studies utilise a different number of major sport events in their research, ranging from one to ten. A common element may be seen in the demographics chosen, with most studies being based on adults aged 16 or older (Bowles, Rissel & Bauman, 2006; UK Sport & SIRC, 2012; Ramchandani & Coleman, 2012; Ramchandani et al, 2014; Derom, Vanwynsberghe and Scheerder, 2015; Potwarka, 2015; Ramchandani et al, 2015; Kim, Lee & Lee, 2016; Ramchandani et al, 2017a, 2017b), excluding younger people (Frawley & Cush, 2011; Craig & Bauman, 2014).

Vanden Heuvel and Conolly (2001) found that there was no change in sport and physical activity participation in Australia, both before and after the 2000 Sydney Olympic Games. This was somehow contradicted by Veal et al (2012) who found a positive effect following the 2000 Sydney Olympic Games; however, non-Olympic sports experienced stronger increases with 13 showing increases, in comparison to 5 in Olympic sports. Moreover, 12 non-Olympic sports and 16 Olympic sports showed a decline. Nevertheless, in order to truly

assess the overall sporting activity engagement, it would be necessary to consider the frequency and time spent participating, which Veal et al (2012) did not include. Additionally, research has been largely conducted at summer sports events, with very limited studies of winter sports at an inspirational level (UK Sport & SIRC, 2012; Potwarka, 2015; Ramchandani et al, 2017a, 2017b).

Results indicate a positive engagement with sport and/or physical activity after attending the respective major sporting events (Lane et al, 2008; Crofts et al, 2012; Ramchandani et al, 2015), contradicting Weed et al's (2009) findings showing a lack of evidence with regards to sport participation. According to Lane et al (2008), a reason for such positive engagement are the prompts provided by the various media outlets; however, this only results in short term behaviour change, and further prompting is necessary for long term effects. Ramchandani et al (2015) used a self-report methodology which could be affected by a bias in participant responses, potentially resulting in skewed results. Moreover, one could question the methodology utilised by Lane et al (2008), Ramchandani et al (2015) and Potwarka (2015) which is very general, and with similar research designs to each other. However, Lane et al (2008) and Ramchandani et al (2015) both used baseline and follow-up surveys (2 & 6 months and 6/12 months respectively), whilst Weed et al (2009) conducted a systematic review of the evidence base for developing a physical activity, sport and health participation legacy from the 2012 London Olympic Games. An estimated 7,000 participants were surveyed at the 2007 Flora Women's Mini-Marathon in Ireland, with an additional 414 small interviews with a random sample (Lane et al, 2008), whereas 434 responded to the follow-up (phase 2) from an initial sample 6,993. Despite the similarities in design, the final sample used is different, which may or not have an influence in the overall outcome.

Nevertheless, it is important to highlight that the methods applied may debatably not have been the most effective or conclusive with regards to measuring sport and/or physical activity participation (Popper, 2004). Reason being that with surveys, there may not be the opportunity to prompt, probe, ask many questions that are not salient to respondents, amongst other

disadvantages. However, methods such as interviews and diaries of physical activity, may allow for a deeper and detailed collection of the relevant data (Pfitzner et al, 2013).

With regards to children, Olympic sports proved to have a stronger correlation. However, these were regarded as purely speculative due to the nature of the data collection regimes which were perceived as inconsistent. The inconsistency is related to the changes in data collection instruments at important times of the study (pre- and post-event). Research also highlights the difficulty in collecting adequate data that will enable the success measure of sports events outcomes (Veal et al, 2012). The Taking Part (TP) survey shows respondents who have taken part in sport or recreational activity answered that the UK winning the bid to host the 2012 London Olympic Games had motivated them to do more of these activities, with data from 2011/2012 to 2013/2014 showing a substantial increase from 7.3 percent to 21.8 percent. In addition, respondents who were inactive, illustrated a significant increase from 2011/2012 (8.3 percent) to 2012/2013 (15.3 percent) and 2013/2014 (17.9 percent). However, whilst the evidence from the TP survey measures the intention to do more sport or physical activity, it does not empirically quantify any changes in behaviour.

The majority of the research conducted at these events was based on a variety of demographics including: adults ranging in age (16-45+), gender (male/female), disability status, residence status and ethnicity (Bowles, Rissel & Bauman, 2006; UK Sport & SIRC, 2012; Ramchandani & Coleman, 2012; Ramchandani et al, 2014; Derom, Vanwysberghe and Scheerder, 2015; Potwarka, 2015; Ramchandani et al, 2015; Kim, Lee & Lee, 2016; Ramchandani et al, 2017a, 2017b). Nevertheless, the majority of the samples are mainly composed of adults over the age of 25. It may also be pointed out that studies have failed to take into account both personal and external factors that may affect an individual's attitude and behaviour, but also might explain potential demonstration effects (Potwarka et al, 2017).

Isolating event outcomes has proven to be difficult due to external factors that affect and influence people's participation levels (Lera-Lopez & Rapun-Garate, 2007; Wicker, Breuer & Pawlowski, 2009; Downward & Rasciute, 2010; UK Sport & SIRC, 2011). Weed et al (2009) argue that there is no scientific evidence that shows the effectiveness of the 'trickle down' effect, although Ramchandani et al (2017a) suggest differently. Weed et al (2009) relied on the analysis of secondary data such as national surveys of sport participation in order to measure the 'trickle-down' effect, which may be considered of limited value. This type of data is often collected for more general purposes than assessing the impact of a particular sport event. This implies that it is increasingly more difficult to be confident as to the extent to which any changes occur as a direct result of hosting an event. Additionally, even if it was possible to isolate such changes to an event, macro level data is highly unlikely to be delicate enough to pick up changes (Preuss, 2007). Veal (2003), Bauman et al (2003), Montoya et al (2013) and Potwarka and Leatherdale (2016) show, that most of the research exploring the demonstration effect has been based on an analysis of secondary data of macro-level participation data (population level). As a result, they offer limited explanation or causal understandings at the individual level of the demonstration effect (Toohey & Frawley, 2012; Boardley, 2013). However, Ramchandani et al's (2017a) study did use primary research data obtained from spectators who attended an event, enabling the understanding using a refined Transtheoretical Model (see chapter 3, section 3.2.6), of any attitudinal changes experienced by them.

In addition, Potwarka et al's (2017) study was based on a one-off event rather than a group of different major sport events and did not consider the possibility of the attenders participating in other sports post-event. Thus, there is the need for both attitudinal and behavioural change measurement, using a wider range of major sport events and taking into account sport and/or physical activity participation (other than the sport showcased at the event), in order to be able to truly test the extent of the inspiration effect.

2.3.6 Sport Participation & Inspiration

Existing research seems conflicting and mainly based on 'mega' sports events, with very little research being carried out on major single-sport events and their impact on sport participation (Ramchandani & Coleman, 2012). Sport England (2015) data shows a positive increase in adult participation by at least once a week, with 15.83 million in April 2016 in comparison with 15.49 million in April 2015 (Active People Survey, 2016). Active People Survey (2016) also shows that from October 2012 until April 2015, there was a decrease of 0.004 percentage points. However, as the majority of adults (58 percent) do not currently meet the sport participation minimum requirements (Sport England, 2015), this suggests that in relative terms, the proportion of the population who are active remains static, with the increase in participants being a direct result of the country's growing population.

A recent study by the Leeds City Council on the impact of three UK stages of the Tour de France in 2014, showed through survey evidence that the inspiration effect was present (Leeds City Council, 2014). Data suggested that from the estimated 3.5 million who attended the UK 2014 Tour de France stages, 2.2 million (63 percent), *"felt inspired to take part in sport more often than they normally do as a result of watching the race"* (Leeds City Council, 2014, p51). However, this only shows a potential intention to change behaviour, but this intention may be short, medium or long term (Maennig, 2007; McCartney, 2010). The inspiration was higher for people of ages between 16 and 24, with 72 percent of these young people feeling inspired to become more active (Leeds City Council, 2014). This seems to indicate that young people are easier to inspire in relation to the older generation. From the 63 percent of people who felt inspired, 1.8 million (80 percent) stated they felt inspired to increase their cycling activity (Leeds City Council, 2014). However, it should be pointed out that the post-event online survey was the last measurement taken, with no follow-ups. Therefore, it is uncertain whether the event attendees converted the inspiration into actual behaviour change. Additionally, the 2014 Tour de France study indicates that from the whole UK

adult population (approximately 14 million), 27 percent (an estimated 3.87 million) said they felt inspired to cycle more. Even though 27 percent may not seem as substantial a first sight, it is still significant as it represents 3.87 million people (Leeds City Council, 2014). Nevertheless, Active People Interactive (2016) data emphasizes an increase in (1x30min/week) cycling sport participation pre- and during the 2014 Tour de France, however it further highlights a decrease in participation post-event (-0.44 percent from October 2014 to October 2016). Even though the Leeds City Council (2014) research is further supported by Derom, Vanwynsberghe and Scheerder (2015) who found positive evidence in relation to the inspiration effect of the Tour de Flanders Cyclo in Belgium on its participants, Active People Interactive (2016) data supports Weed et al (2015), whereby leveraging is required in order to maximise the opportunities for sustained positive behaviour change.

Bowles, Rissel & Bauman's (2006) study found that either novice riders or first-time participants had significantly increased their cycling activity shortly after the sporting event (one-month post-event). Leeds City Council's (2014) study supports Bowles, Rissel & Bauman's (2006) research, by showing using the one-week post-event follow-ups, that approximately one million spectators increased their levels of cycling (30 percent of the total event attendees). However, both studies are limited to their short-term post-event follow-ups, and therefore do not test for potential sustained long-term behaviour change. In addition, a sense of inspiration regarding the one million participants does not show a causal effect, nor does it represent a continuous positive change in behaviour. The evidence therefore highlights the need for prolonged follow-ups, in relation to both active and non-active major sporting event attenders.

If we consider the spectators who belonged to the Market Development sector, and were therefore already physically active (cycled at least once a week), 66 percent stated that watching the Tour de France 2014 live had a positive influence in motivating them to cycle more often (Leeds City Council, 2014). The representation of non-active spectators who participated in the surveys and felt inspired to cycle was 14.5 percent (approximately 507,500 spectators)

(Leeds City Council, 2014). Nevertheless, this is by no means tangible hard evidence showing that the inspiration effect has in fact succeeded in turning 'desire' into completed actions. Despite the evidence, there is no given template that shows how the 'inspiration effect' works, which could be better understood and developed using programme theory (see Chapter Three, section 3.1.9).

Another study based on ten sporting events in the UK concluded that 57.3 percent of 7,458 participants aged 16-25, were either 'inspired' or 'strongly inspired' to increase their current levels of sport, as a direct result of attending a sporting event (Ramchandani et al, 2014). However, these were also based on perceptions about how they felt at the time, and not a measurement of behaviour change. Therefore, further research is necessary to determine what aspects appeal to each of the inspiration effects. Even though the evidence suggesting positive behaviour change may not be deemed as strong, the influence of the 2006 CGs on the respondents' positive attitude proved to be significantly higher (30.9 percent) (Wicker & Sotiriadou, 2013). Despite this figure, Weed et al (2015) argue that there is limited or no evidence of the influence that hosting major sport events has on the participants. Positive behaviour change has been noted; however, McCartney's (2010) systematic review shows that the full extent of such outcome is arguably still inconclusive. These were due to the variety of findings, such as increases and decreases of overall participation attributed to different sporting events. On the one hand, the 1992 Barcelona Olympic Games registered an increase whereas the 2002 Manchester Commonwealth Games experienced the reverse effect (McCartney et al, 2010). However, as mentioned in section 2.2.4, there is in fact mixed evidence regarding the 2002 Manchester CGs' effect on participation.

Figure 2.6 below illustrates the proportion of people who claimed to have attended at least two sporting events in the twelve months prior to the survey.

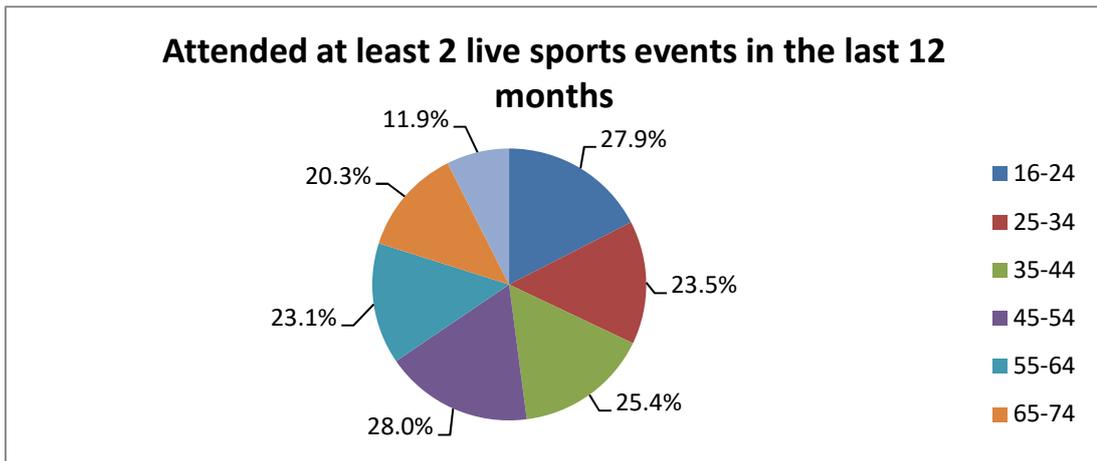


Figure 2.6 - Active Lives survey report: Adults who have attended at least 2 live sports events in the last 12 months (Sport England, 2016)

Data shows that the ratio of adults between the ages 16-74 is generally constant, with the exception to the 16-24 and 45-54 demographics (see figure 2.6). The biggest difference is seen in the 75+ age bracket, with an approximated 50 percent or more difference from the rest of the demographics (see figure 2.4). The data supports previous research suggesting that children and young people are most likely to be inspired as a result of attending major sports events (Ramchandani et al, 2014; Leeds City Council, 2014). Thus, there is a need to understand the extent to which young people may be inspired to increase their sport and/or physical activity participation and change their behaviour, as a result of attending a major sporting event (Frawley & Cush, 2011; Craig & Bauman, 2014). However, as highlighted by Porter (2002), older people were apprehensive about returning to physical activity due to cost and time mitigating factors.

Currently, mechanisms by which all interventions such as the staging of a major sports event causes changes that cause people to participate more needs further research. As verified by the evidence provided thus far, there is no given template which shows how the inspiration effect works. Therefore, a limitation in the literature is the need to test the mechanisms by which things

are assumed to work, using programme theory to aid the understanding (see Chapter Three, section 3.1.9).

2.3.7 Young People's Participation & Inspiration Effect

Prior to examining the link between young people's sport and physical activity participation and the 'Inspiration Effect', an analysis of how sport and young people are linked in a global context (Rowe, 2012) should be conducted. The analysis will enable a clearer understanding of the importance of sport for young people, in areas such as crime reduction and health benefits. Sports Council Wales (2009), Sport New Zealand (2011), Skirstad, Milena and Houlihan (2017) are a few of the studies and reports that have been conducted, which highlight the link between the levels of sport and physical activity in young people. Although the lack of sport and physical participation is regarded as an area of great concern, an upward trend has been witnessed with regards to young people participating in sport and/or physical activity (Sports Council Wales, 2009). Despite this positive trend, Sports Council Wales (2009) and Sport New Zealand (2011), Ramchandani et al (2014, 2015) highlight a pattern which indicates that sport and physical activity participation decreases with age. Furthermore, Veal et al (2012) concluded that Olympic sports had a stronger influence on children, whilst non-Olympic sports had a more positive effect for adults. Evidence therefore indicates that children and young people are most likely to be inspired to participate in sport in comparison to older adults.

2.3.7.1 Correlation - Children and Young People

Earlier research has recognized that young people form a connection with sports athletes and regard them as heroes in the sporting domain (British Psychological Society, 2004). Evidence points to a strong correlation regarding the inspiration effect of major sports events on young people (Frawley & Cush, 2011; Craig & Bauman, 2014). Lines (2002) argues, that the connection may be more complex, and thus it would be too one-dimensional to assume that spectators, in specific young people, will imitate the most high-

profile athlete's behaviour on and off the 'court'. However, Lyle (2009) further suggests that the connection is regarded as 'passive', thus no direct form of communication takes place.

Sports Council Wales (2009) state that *"approximately a third (35%) of young people aged 11-16 in Wales are sufficiently active to meet current guidelines..."*(p31), of sixty minutes five days a week (5x60 minutes), representing an 11-percentage point increase from levels registered in 2004. However, Sport Scotland (2008) found that participation rates for children aged 8-15 doing at least (1x30min/week) showed no significant changes from 2005-2007. Sports Council Wales (2009) further supports this by stating that there is *"relatively little difference in overall physical activity levels with increasing age"* (p31). Correspondingly, inactivity and age display a positive yet small relationship, with increasing levels of inactivity with advancing years (Sports Council Wales, 2009). However, contradicting Sport Scotland (2008), Sport Northern Ireland's (2014) report illustrates an excess in *"its annual target of increasing participation in sport and physical recreation by 50% (419,702 against a target of 280,000)"* (p3), amongst people of all ages, abilities, identities and backgrounds. On the other hand, Sport New Zealand (2011) reported that 94.1 percent and 93.0 percent of boys and girls aged five to ten years respectively participate in three or more hours of sport and recreation. In turn, the same statistic for boys and girls aged between fifteen and eighteen years of age was 81.9 percent and 73.2 percent respectively. Nevertheless, a difference in the minimum guidelines for regarding individuals as active is verified. In addition, there is a significant difference when examining the data in relation to gender (Sports Council Wales, 2009).

Sport England's first Active Lives (2016) survey report illustrates the levels of activity and inactivity according to age, partially contradicting Sports Council Wales (2009). The data illustrates the trend of sport and physical activity decreasing with age. Nevertheless, Cox, Coleman and Roker (2006) provides evidence suggesting that for active women aged 15 to 19 years old, the prevalent motivating factors include early age sport participation and positive

experiences at a young age. This highlights the presence of other variables which may affect sport and physical activity participation. As recognised by the evidence gathered, the teenage years are increasingly seen as the period of physical activity participation decline and a consequent reduction in fitness (CSP, 2012).

The current body of literature relating to young people's participation in sport and how sporting events may potentially inspire them to increase their sporting participation is scarce (Lane et al, 2008; Frawley & Cush, 2011; Craig & Bauman, 2014; Frick & Wicker, 2016). Nonetheless, Skirstad et al (2017) suggest that the relationship between young people and sport has been a continuous and a long lasting one, but also one of growing concern. They further add that the reasons young people are regarded as important for domestic sport organisations are due to them being viewed as a pool of talent which is required to maintain and expand the domestic elite level competitions (Skirstad et al, 2017). However, Servaes (2012) and, Grix and Houlihan (2014) argue that numerous governments believe that a heavy investment in specialist youth schools and academies will ensure a significant soft power diplomatic resource. Thus, there are different reasons why investment from the government is directed at young people in sport.

Craig and Bauman's (2014) study on whether hosting the 2010 Vancouver Olympic Games encouraged children in Canada to be physically active, suggests that there was *"no measurable impact on objectively measured physical activity or the prevalence of overall sports participation among Canadian children"* (p107). This was found even though there is excitement linking mass sports events and physical activity (IOC, 2011). Craig and Bauman's (2014) study supports the notion that simply hosting an Olympic Games does not increase the population's physical activity levels of the host city or nation, there is a need for effective leveraging of planned initiatives/interventions to maximise and promote sporting opportunities. These include: infrastructure development, better collaborations between the public health sector and the community, mass communication campaigns to

aid the change of social norms on being active and great policy consistency and assurance (Craig & Bauman, 2014). Ultimately concluding that hosting a sporting event such as the Olympic Games, will not guarantee an increase in physical activity levels in for young people, even though they are more likely to feel inspired in comparison to adults (Craig & Bauman, 2014). Sporting events may have the potential to positively inspire people to do more sport and physical activity, but behavioural change should not depend solely on the hosting of the event (Weed et al, 2012; 2015). There needs to be effective planning for the leveraging of initiatives and interventions in order to maximise the opportunities for event attenders to participate and sustain that positive behaviour.

When examining the youth's sport and physical activity levels, and the physical and mental wellbeing gains, it may be important to look beyond the standard demographic (Moola, Faulkner, Kirsh & Kilburn, 2007). Moola, Faulkner, Kirsh and Kilburn (2007) explored "*perceptions toward physical activity and sport in the lives of youth with congenital heart disease*" (p49). Fredriksen et al (2000), Smith (2001) and Imms (2004) suggested physical activity as a method of increasing the quality in life of youth with congenital heart disease. However, it was found that the majority of the thirteen interviewed participants stated that sport and physical activity in relation to other aspects of their lives, were not considered to be important (Moola, Faulkner, Kirsh & Kilburn, 2007). Nevertheless, despite the previous findings, the size of the sample may be regarded as too small to provide significant scientific conclusions (Ioannidis, 2005; Simmons et al, 2011). Furthermore, the reasons for which sport and physical activity were not important differed greatly between participants (Moola, Faulkner, Kirsh & Kilburn, 2007). Further evidence provided by Moola, Faulkner, Kirsh and Kilburn (2007) points to the theory that external factors are highly influential in children's behaviour, in specific when suffering from a chronic illness. Even though sport and physical activity are known activities that may contribute to physical and mental wellbeing (Faulkner & Carless, 2006), the young participants had other areas of their lives they regarded as in need of more attention (Moola, Faulkner, Kirsh & Kilburn, 2007). This

highlights the potential presence of mitigating factors which may impact on translating 'intention' into 'actual' sport and physical activity participation. However, the small sample used in Moola, Faulkner, Kirsh and Kilburn's (2007) research, make generalisability of the sample unfeasible.

Evidence provided by Sport England's Active People Survey (APS) indicates a slight decrease in (1x30min/week) sport participation for both 16-25 and 26+ year olds, down by 0.78 percentage points and 0.08 percentage points between October 2011 and October 2013. Although these are small figures in relation to the overall proportion of active people, it suggests that the inspiration effect was not extensive, just over 12 months post the London 2012 Olympic and Paralympic games (Weed et al, 2015). On the other hand, it should be pointed out that such decrease in participation could have happened irrespectively of the London 2012 Games.

Feehan et al (2012) and Merkel (2013) argue that youth participation in sport and/or physical activity may vary, in part due to the external factors (extenuating circumstances), which would push the young people away even though they may have the desire to take part (Getz, 2005). Moola, Faulkner, Kirsh and Kilburn (2007) concluded that the majority of the children with chronic illnesses did not meet the recommended levels of sport and physical activity (Canadian Fitness & Lifestyle Research Institute, 2002/2003; Humbert et al., 2006). A reason for this could be attributed in part to congenital heart disease these young people, acting as a life factor which may get in the way of sport and physical activity participation. Whilst Craig and Bauman's (2014) study extend its sample to young people, the majority of the studies mentioned focus on adults (see Appendix B), thus affirming the need to include both children and young people in future research.

2.3.7.2 Media's Impact on Young People's Sport and Physical Activity Levels

The report by Sport New Zealand (2011) states, that *"young people are keen spectators and watch sport on TV, online and at live matches and events"* (p74). Evidence from the report shows that between 70-90 percent of boys in

a variety of age groups claimed to have watched sport on the television and watched friends or even members of their family play sport. The Office for National Statistics (ONS) states that 88 percent of 16-24-year olds watched TV in their free time and supports the positive correlation between watching TV and increase in age (ONS, 2011). However, watching live sports events was reported to be a popular option, with 50-70 percent for boys and 40-60 percent for girls (Sport New Zealand, 2011). Furthermore, the Sport New Zealand (2011) survey categorised each question with 'often', 'sometimes' and 'never', but they failed to define these terms to the participants. This raises the question as to whether the participants did or did not fully understand the value of each term and as a result; the answers provided may not be an accurate representation. Thus, any future research should provide a high level of clarity in relation to any terms used for the data collection process.

The Global Sports Media Consumption Report (Harper, 2012) shows that 18-24-year olds (young adults) in the UK, use TV (94 percent) as their prime method for sports consumption, followed by internet (74 percent), social networking platforms (47 percent) and mobile (40 percent). Younger sports fans are therefore more likely to follow sport on the different social networking platforms due to their greater propensity to consume sports online (Harper, 2012). This clearly highlights the reach potential of the various media platforms, which could result in more people being inspired by watching sport, and potentially changing their behaviour. However, watching TV as seen by table 2.3 below, may cause significant amounts of sedentary behaviour (Townsend et al, 2012), which opposes the rationale behind inspiring people to become more active and thus change their behaviour.

Table 2.3 - Time spent watching television: adults, by age and gender - England (adapted from Townsend et al, 2012)

	Average hours per day								
	All Adults	16-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
		24	34	44	54	64	74	84	85+

Men									
Weekday									
Watching TV	2.8	2.5	2.3	2.3	2.6	3.1	3.8	3.9	4.0
Weekend day									
Watching TV	3.1	2.7	2.7	2.8	3.1	3.5	3.9	3.9	4.0
Women									
Weekday									
Watching TV	2.8	2.6	2.2	2.1	2.5	3.0	3.6	4.2	4.2
Weekend day									
Watching TV	3.0	2.8	2.7	2.6	2.9	3.1	3.5	4.0	4.1

2.4 Conclusion

Hosting major sporting events has the potential to bring a plethora of different impacts to the host city and/or nation (Karadakis & Kaplanidou, 2012; Davies, 2012; Liu & Wilson, 2014; Liu, Broom & Wilson, 2014); however, sporting events should be seen as opportunities as they do not cause the impacts, rather act as catalysts (Ramchandani et al, 2015). UK Sport and SIRC (2012) highlight, that *"not all events that are 'major' in sporting terms will also be 'major' in economic terms"* (p8). A sporting event of a considerable magnitude does not necessarily result in substantial economic and social effects (UK Sport & SIRC, 2012). As suggested by Ramchandani et al (2017b) there is a need to examine potential negative health implications, in order to obtain a more comprehensive understanding of the consequences associated with hosting major sports events.

Additionally, there are other social impacts that may come as a result of successful leveraging of sporting events, including enjoyment and quality of life (Florek et al, 2008). In order for sporting events to be leveraged effectively, impacts should be planned for, resourced and optimised (Chalip, 2006; Weed

et al, 2015). In addition, it was established that the majority of the literature regarding the impacts of major sporting events is mainly centred on the economic impact, thus highlighting a gap and a need to research the social impacts (Preuss, 2007; see Appendix A).

It was established that the inspiration effect encompasses different strands, including the demonstration and festival effects (Weed, 2009). As acknowledged by Chalip (2006), if leveraged effectively, sporting events have the potential ability to act as catalysts for both a Demonstration and/or Festival Effect (Weed et al, 2012; 2014). Previous research points to the inspiration effect being more effective with 'Market Penetration' (active), than with 'Market Development' (non-active) (Weed et al, 2015). Evidence however, is largely mixed, therefore making it hard to come to definite measurable conclusions about the 'inspiration effect' of attending major sporting events (Ramchandani & Coleman, 2012; Derom, Vanwynsberghe & Scheerder, 2015; Ramchandani et al, 2015; Ramchandani et al, 2017a). Furthermore, although studies have acknowledged a negative correlation between age and inspiration effect, whereby the tendency shows a decrease of the effect with an increase in age (Frawley & Cush, 2011; Craig & Bauman, 2014), the majority of the studies are based on 16 years and over (with most samples consisting of ages 25 and over), suggesting the need for further research encompassing samples under the age of 25. Therefore, the need for further research is evident, in order to produce a clearer understanding of the differences, if any, of the influence attributed to the different age groups, namely under 16 and under 25.

Research on the inspiration effect of attending major sport events has been mainly centred on identifying/measuring the 'intention' to change behaviour, in both adults and young people (see Appendix B), thus highlighting a gap in the measurement of actual behaviour change that should be addressed. Potwarka et al (2017) point out that the intrapersonal and environmental mechanisms should be taken into consideration as these, as these have not been researched as a possible aid for the explanation of potential demonstration effects.

It is evident that mechanisms by which all interventions such as the staging of a major sports event causes changes that cause people to participate more needs further research. There is no given template which shows how the inspiration effect works, thus a need to test the mechanisms by which things are assumed to work, using programme theory to aid the understanding is needed (see chapter 3, section 3.1.9).

In addition, the impact of watching events on TV differs from the impact of attending live events, in particular due to the wide mediated reach (Maennig & Zimbalist, 2012; Muller, 2015). UK Sport & SIRC (2011, 2012) state that the inspiration levels are higher when attending the event live in comparison to watching it on TV, however, Hamer, Weiler and Stamatakis (2014) asserts that there is no evidence suggesting a direct association between watching the event on TV and a difference in physical activity levels. Thus, there is mixed evidence relating to the extent of the media impact on levels of sport and physical activity.

Potwarka et al (2017) emphasised a lack of empirical evidence relating to behaviour change mechanisms such as cognitive and affective, which may be essential for leveraging of sport events. This may be considered particularly useful for sport organisations when designing spectator experiences and promotional efforts with the rationale of enhancing the scope and magnitude of demonstration effects (Potwarka et al, 2017). Evidently, there is a need for further measurement of the inspiration effect in both its intangible (attitudinal) and tangible (behavioural) states across the different stages of change (Ramchandani et al, 2017a, 2017b; Potwarka et al, 2017).

Chapter Three – Theories and Models

Map of Chapter

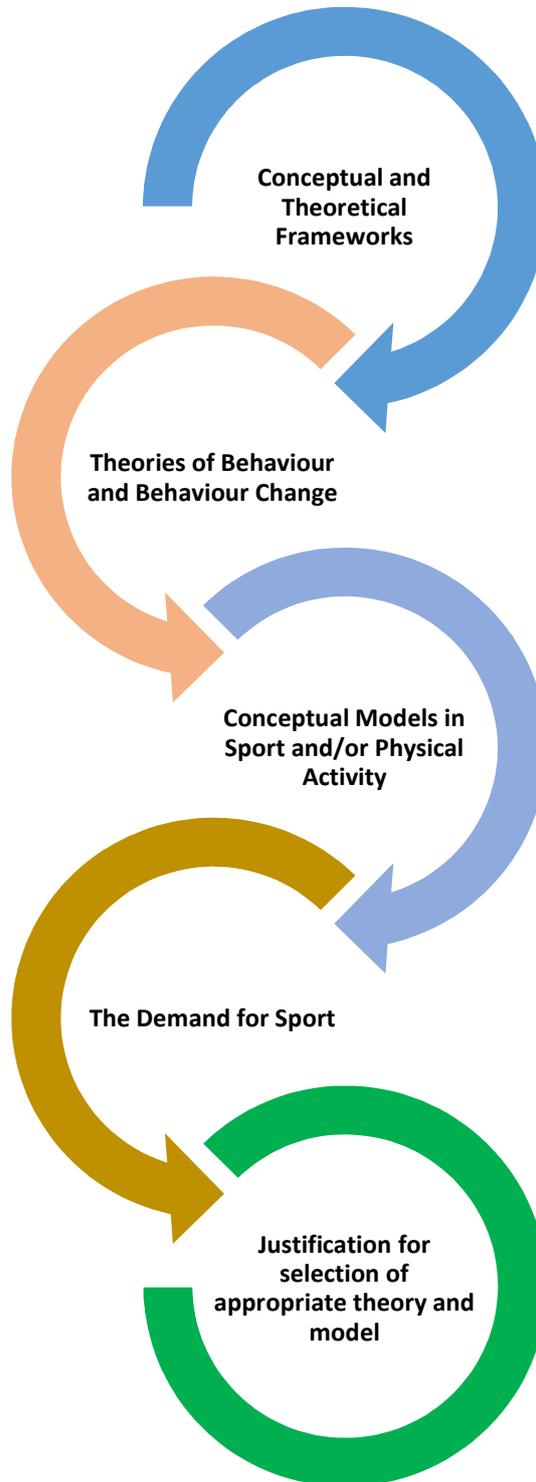


Figure 3.1 – Map of Chapter 3

3.0 Difference between a Conceptual and a Theoretical Framework

3.0.1 Definitions of frameworks

Theory is defined by Fain (2004) as a systematic and organised group of interconnected concepts (statements) that identify the relationship between two or more variables, with the intention of understanding a problem. Furthermore, a concept is regarded by Fain (2004) as statements that describe phenomena. However, Green (2014) explains that the process of when concepts become organised and interconnected and regarded as theories is subject to interpretation. It may be a reason why theories and concepts are used interchangeably (Green, 2014). Parahoo (2006) proposes that a 'theoretical framework' should be used when research is underpinned by a single theory. Lacey (2010) describes 'conceptual framework' as an identification of the researchers' views of their research, and a way of delineating their pre-conceptions and assumptions. It is also viewed as research that is guided by the concepts of various theories and findings (Parahoo, 2006). Nevertheless, Parahoo's (2006) interpretation, where elements of multiple theories are used, differs from the one presented by Fain (2004), where concepts have been built into a theory.

The differing academic views on the meaning of conceptual and theoretical frameworks may cast some doubt as to the value of the two terms (Green, 2014). Nevertheless, Fulton and Krainovich-Miller (2010) view a framework as a map for a study that provides a rationale for research questions or hypothesis development. Grant and Osanloo (2014) adds that the framework is the design where the literature review, research question, purpose and theoretical framework all complement each other, consequently supporting the process of the design (Ravitch & Carl, 2016). In simple terms, a framework is used to support researchers in ensuring the coherence and keep the focus of the overall aim of the research (Green, 2014).

3.0.2 Importance of frameworks, theories and models for the thesis

The rationale for the importance of underpinning this research with psychological theory is that they help us understand the determinants of behaviour (inspiration, income, education, age, transport, amongst others), and theoretically driven research can help identify the effect of a major sport event on potential mediators of attitudinal and behavioural change. This chapter will critically analyse the different theories and models of behaviour and behaviour change, and apply any which is deemed appropriate for the measurement of attitudinal and behavioural changes of major sports events attendees.

3.0.3 Examples of successful interventions

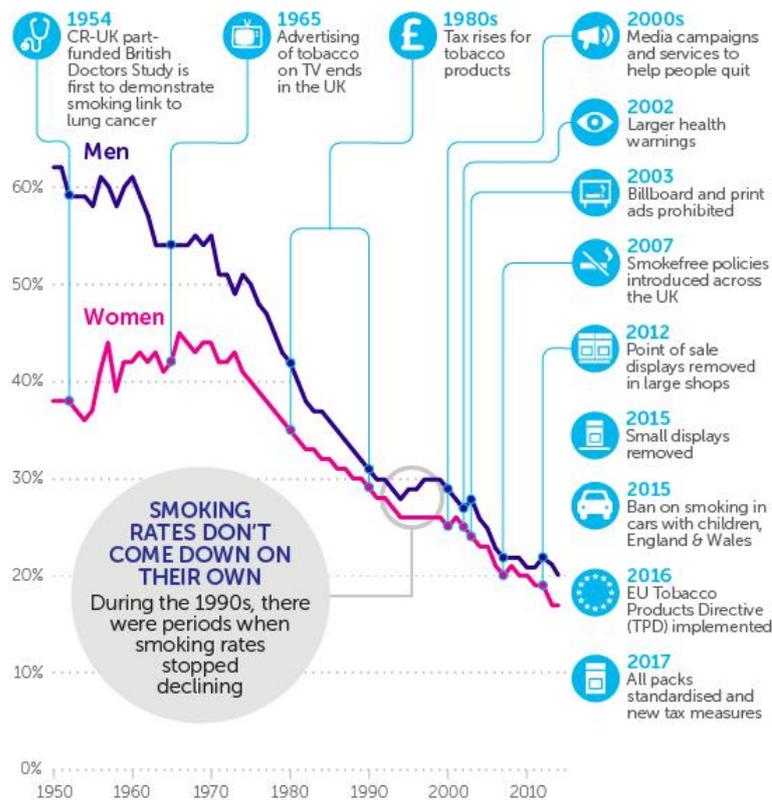
When looking at successful attitudinal and behavioural change interventions, two examples may be highlighted, namely: smoking and drink driving. These have experienced changes over time in an attempt at their reduction and ultimately their elimination.

3.0.3.1 Smoking

According to the American Cancer Society (2017), an estimated 80 percent of lung cancer deaths are caused by smoking, with numerous being a result of exposure to second-hand smoke. Evidence provided from Cancer Research UK (2012) indicates that lung cancer cases in men during the 1950s illustrated that for every case in women, there were six diagnosed men, reaching its highest point in the late 1970s, however decreasing by more than 45 percent in 2012. This shows a decline in smoking rates in men post World War Two. In addition, from mid-1970s to late 1980s lung cancer cases amongst women increased by an approximate 45 percent, however since then the increase has been significantly lower (+14 percentage points). A reason for such difference between men and women is reflected in the variations in past smoking behaviour. Nevertheless, the decrease in the rates of lung cancer cases may be in part attributed to the effectiveness of smoking cessation policy.

The World Health Organisation (WHO) (2004) emphasizes a range of policies and activities which have been used on a mass population scale to decrease the number of smokers in Europe. A notorious key component of a tobacco control policy has been the raising of taxes, with the rationale that increasing the prices would reduce the consumption and prevalence of tobacco product usage (WHO, 2004). The World Bank (1999) suggests that a 10 percent increase in price would result in a demand decrease of around 4 percent (high income countries) and 8 percent (low and middle-income countries). Another approach entails regulations on exposure to environmental tobacco smoke, which according to WHO (2004), could reduce the average consumption of cigarettes and thus the prevalence of smoking. Nevertheless, these restrictions would be dependent on public opinion through widespread information campaigns. Interventions in the form of contests such as "Quit and Win", where research from 33 European countries shows that an estimated 20 percent of participants have remained tobacco free 12-months later.

SMOKING RATES DECLINE WITH ACTION



Source: Adult Smoking Habits in Great Britain: Opinions and Lifestyle Survey, ONS

LET'S BEAT CANCER SOONER
cruk.org



Figure 3.2 - Smoking Rates Decline with Action (ONS, 2017)

Figure 3.2 above clearly illustrates the different initiatives implemented since 1950, and the effect these have had on the smoking rates, supporting the evidence provided by WHO (2004). In relation to both men and women, the initiatives highlighted in figure 3.2 have been successful in reducing the number of smokers in the UK.

3.0.3.2 Drink Driving

The Department for Transport (2017) illustrates that from 2005 until 2015, the number of fatalities in reported drink drive accidents has substantially decreased by an estimated 60 percent. Such decrease could be in part due to it now being socially unacceptable to drive under the influence of alcohol, and therefore, legislation has suffered changes, specifically to the drink driving

limit. The 2016 annual report from the Department of Transport shows that the number of drivers involved in accidents has decreased from 2006 to 2016 by an approximated 29.7 percent, with the number of those failing the breathalyser test also decreasing by a considerable 41.1 percent. In the UK, England, Wales and Northern Ireland have an 80mg/100ml of blood limit, whilst Scotland has lowered it to 50mg (Institute of Alcohol Studies, 2017). However, Northern Ireland is currently in the process of lowering their limit, which demonstrates that the interventions in place are in fact successful.

The initiatives previously mentioned for both smoking and drink driving may be regarded as having a long-term impact, having started many years ago, but are still in place and continuously improving. Whereas in sport, there is no evidence of any initiatives that have lasted for similar periods of time, meaning most only have a short-term impact on behaviour change.

3.1 Theories of Behaviour & Behaviour Change

3.1.1 Introduction

The primary functions of theory are to describe a process by inference, explain observed phenomena and generate predictions (West & Brown, 2013). In relation to behaviour and behaviour change, the different existing theories aim to explain the why, when and how a specific behaviour occurs, and what elements should be targeted to modify the behaviour (Davis et al, 2015).

The nature of behaviour and the context in which it occurs is important for the overall understanding of behaviour change and how it may occur (Michie & West, 2013). It is suggested by Michie et al (2014) that to alter the manifestation of a particular behaviour, it is required to change either motivation, opportunity to engage in the activity or capability. The components that affect behaviour involve the processes that drive and guide behaviour (Sheldon et al, 2003), the physical and psychological attributes of the individual, and the external factors which are integral for decision making and may positively or negatively influence behaviour (see figure 3.3). Mechanisms such as small changes in dietary and physical activity behaviour may have

considerable effects on population health outcomes (Ezzati et al, 2002; Solomon & Kington, 2002; Mokdad et al, 2004). Evidence provided by Naar-king, Earnshaw and Breckon (2013) emphasize that over 75 percent of individuals do not maintain behaviour changes in multiple areas of behaviour, including physical activity. Thus, highlighting the need to research the potentially 'driving factors', which may affect (facilitate or mitigate) individuals and contribute towards the lack of prolonged and sustained behaviour changes, particularly in sport and physical activity.

Theories of behaviour change may enable a deeper understanding as to why people behave in certain ways, and as to the psychological influences that affect them (Bandura, 1997; Cox, 2007; Morris, Marzano, Dandy & O'Brien, 2012; Prager, 2012). Thus, they may be applied to advance understanding and knowledge with regards to attitudinal and behavioural changes of major sport event attenders' sport and/or physical activity levels (Hagger, 2009). These theories include the: Theory of Reasoned Action (TRA), Theory of Planned Behaviour (TPB), Self-Efficacy Theory, Social Cognitive Theory (SCT), Programme Theory, Social Practice Theory (SPT) and Diffusion of Innovation (DoI) (Morris, Marzano, Dandy & O'Brien, 2012).

Theories have seen a significant evolution from the operant conditioning theory proposed by Skinner (1953). The theory highlights a process where attempted behaviour modification occurs through the use of both positive (rewards) and negative (punishments) reinforcement (Wood, Wood & Boyd, 2005; Griggs, 2009). However, it should be acknowledged that individuals have different personality traits and therefore positive and negative 'feedback' may have different effects. There are two types of theories, which may be distinguished via their ability to describe either existing behaviour or the capability to focus on how to change behaviour (Prager & Posthumus, 2010). Such distinction is seen in figure 3.3 below,

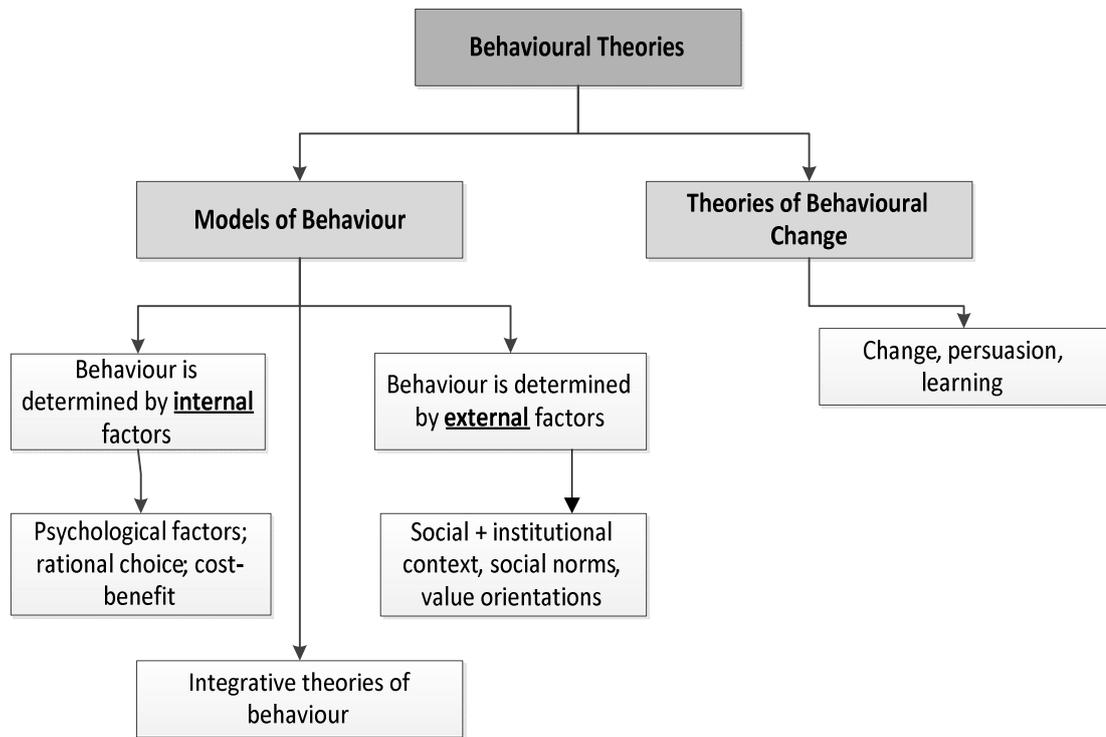


Figure 3.3 - Overview of behavioural change theories (Prager, 2012)

The difference between both types of theories (as supported by figure 3.3 above), is distinguished on the one hand by the intentions, attitudes, values and factors that shape behaviour, and on the other by the process of changing behaviour A into behaviour B (Prager, 2012). The latter type draws upon behavioural models to aid the explanation of the behavioural changes. However, according to Jackson (2005), internal factors such as tastes and preferences, emotional and social, have been the main factors for the measurement of behaviour in a range of different areas including sport. Therefore, behaviour has been somewhat limited to intention (Potwarka, 2015; Ramchandani et al, 2017a), highlighting the need for further research in relation to the measurement of behaviour change (Ramchandani et al, 2017b). Furthermore, as seen in figure 3.3, models of behaviour may be categorised into both internal (prevailing in psychology) and external (dominant in sociology, economics and political sciences) factors (Prager, 2012). According to Prager (2012) these have been incorporated in recent theories, identified under the 'integrative theories of behaviour' group (See figure 3.3). Integrative

theories are particularly advantageous as behaviour change needs both attention to influencing individuals' behaviour and changing the drivers, and conditions which influence behaviours (Prager, 2012). These theories help provide a more in-depth understanding of the factors that influence people towards either positively or negatively changing their behaviour (Cox, 2007). The above theories are inter-connected through common characteristics or by the simple fact that they were derived from a previous theory (Jackson, 2005).

3.1.2 Commonalities between theories of behaviour & behaviour change

The common characteristics of behavioural theories may be identified by their definitions and purpose. The Self-Efficacy Theory denotes an individual's perceived capabilities for learning or performing actions at designated levels of difficulty (Schunk & Pajares, 2009). As such, the higher the perceived capabilities of sports events attendees towards a sport, the more likely the attendees are to initiate or increase their participation in physical activity and/or sport (Potwarka, 2015). The TRA attempts to explain the relationship between attitudes and behaviours within human action, including the internal and external factors (transport, costs, time) which may influence the behaviour (Fishbein, 2008). The TPB is an extension of the TRA, with 'perceived behavioural control' as the added construct in order to augment the TRA's predictive power (Michie et al, 2014b). The additional construct relates to the individual's perceptions of whether they have the skills and resources to perform the behaviour Elliott et al (2013).

Appendix C provides a detailed overview of the positives and negatives of each of the different theories of behaviour and behaviour change, but also provides further evidence where applicable of their application in different contexts (evidence regarding the sport context is given in the main body of the chapter). In addition, it individually classifies each theory in accordance to their suitability for attitudinal and behavioural changes measurements.

3.1.3 Self-Efficacy Theory

Bandura's self-efficacy theory is defined as "*beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments*" (1997, p3). In other words, it is the confidence in one's ability to perform specific behaviours (Boardley, 2013). Self-efficacy beliefs are a key characteristic of human motivation and behaviour, and these have a powerful influence on the actions that can affect one's life (Bandura, 1997), such as the choice of activity and the effort expended in its completion. As Snyder and Lopez (2007) point out, it is the individual's belief of what he/she can accomplish that will allow them to complete certain tasks with their own skills. Although used as an indicator for athletic performance (Cox, 2007), Williams (2010) argues that an individual's belief also enables the predictions of behavioural change by the gathering of data such as emotional state and previous experiences.

In sport, winning or losing games, along with the level of performance, will play a role in the degree of self-efficacy (generally after a loss, self-efficacy in the sport decreases) (Lane & Terry, 2000). Cashmore (2002) highlights that high levels of self-efficacy significantly increases the probability of success in sporting performance. Therefore, an individual is more likely to sustain a particular behaviour if self-efficacy is high. Brown et al (2013) examined the effectiveness of a self-efficacy intervention for helping adolescents cope with competition loss. The control group demonstrated a significant decline in self-reported positive affect in comparison to intervention participants. Heazlewood and Burke (2011) examined self-efficacy's relationship to select sport psychological constructs in the prediction of performance, in the ironman triathlon. They found that performance may be predicted in a more accurate manner when variables are assessed from a variety of Human Movement domains, including hierarchical relationships of variables and performance. Therefore, the predictive power is stronger with incorporation of various elements regarding behaviour.

In the context of attitudinal and behavioural change, from attending major sport events, self-efficacy may affect the activation of the intention and consequent behavioural change. An increase in self-efficacy will increase the probability of a major sport event attendee participating in sport and/or physical activity. However, even though self-efficacy may help identify 'intention', in relation to measuring attitudinal and behavioural change, it should not be regarded as a strong theory, as it utilises a limited number of characteristics, failing to acknowledge environmental factors. However, combining the principles of self-efficacy with another theory of behaviour change, would enable the in-depth understanding of the likelihood that confident attendees in relation to sport and physical activity positively change their behaviour.

3.1.4 Social Cognitive Theory

The SCT (Bandura, 1986) proposes that behaviour change is determined by environmental, behavioural and personal factors. These factors are said to be interlinked (a change in one will have implications on the other) (Foster et al, 2005), suggesting they influence each other (Pajares, 2002). Therefore, as suggested by Glanz et al (2002) an individual's actual behaviour after watching a live event, may differ from what they intend to do, due to external (environmental) and personal factors. In turn, this may potentially mean that the individual has been inspired by the event in some way but may not be able to act upon that effect (McCartney et al, 2010). Thus, being inspired to take part in more sport and/or physical activity may not necessarily be translated into actions (Potwarka, 2015).

The two expectations with the SCT include: outcome (perceptions that certain consequences are determined by the environment and are detracted from personal control) (Taylor et al, 2007), and efficacy (production of a desired or intended result) (Schwarzer, 2014). According to Bandura (2004), there are three key aspects of the outcome expectation, including: personal anticipation of gains and losses, perception of social responses to change in behaviour, and appraisal. The gains and losses are associated with both pleasure and discomfort, including tangible forms such as money. The probability of an

individual taking part in more sport and/or physical activity is considerably higher if he/she perceives it to be beneficial and affordable (Bandura, 1999), thus an inspired major sport event attender is more likely to change their behaviour should the actions result in gained benefits. Moreover, the perception of social responses, relates to the social approval or disapproval to the individual becoming or not, more physically active, meaning the peers' reaction to the null or positive change in behaviour (Coleman, 1990). To maximise the likelihood of a major sport event attender carrying out and maintaining their positive change in behaviour, the social system recognition/approval is important. Appraisal represents self-regulation, meaning that the higher the *"consistency between personal beliefs and values and actions"* (Foster et al, 2005, p18), the higher the motivation is expected to be for the individual to take up more sport and/or physical activity. Despite the perception of the social responses aspect, appraisal challenges it, in that if the person believes taking up or increasing sport and/or physical activity participation is positive and is aligned with their personal wellbeing, then the probability of such behavioural change is greater (Zimmerman & Schunk, 2001).

Miller et al (2015) support Plotnikoff et al's (2008) findings which provide evidence that the SCT explained 14 percent and 9 percent of the variance in physical activity over 6 months among people with type 1 and 2 Diabetes respectively. Ultimately, concluding that outcome expectations, self-efficacy and social support predicted self-regulation which, subsequently, predicted physical activity. Miller et al's (2015) study could be used comparatively to show that should the individual's life be set up in a way as to motivate and make sport accessible, then the four constructs are valid indicators as to the prospect of that individual translating inspiration into actions.

Martin et al (2011) applied the SCT to predict 12 percent and 13-21 percent of the variation in physical activity and fitness in underserved middle school children. Furthermore, barrier self-efficacy was found to be the most prominent role amongst the several psychosocial and environment constructs (Martin et

al, 2011). The mean values indicated that children did not view the school environment as particularly encouraging to physical activity. Kiviniemi, Voss-Humke and Seifert (2007) showed that affective associations played a key role in people's activity behaviour, both as a mediator and independent predictor. Walker and Posner (2003) also support the notion of the SCT as a predictor of behaviour. They found that the higher the individual's self-efficacy, the more positive outcomes he/she would associate with jogging and consequently would be more likely to jog (Walker & Posner, 2003). However, it is important to state that the study was limited to jogging as a physical activity, which may not necessarily be reflective (extended to) of other sporting/activity domains.

Undoubtedly, a combination of the key aspects help explain the different factors that come into play when an individual is contemplating carrying out a particular action or set of actions (Prager, 2012). Much of the current literature has included self-efficacy, outcome expectancies, goal and impediments to assess their impact on the initiation and engagement/performance of health-related behaviours (Luszczynska & Schwarzer, 2015). However, most of this research claims that the SCT solely assesses the self-efficacy and outcome expectancies (see table 3.1 below).

Table 3.1 - Studies that have tested SCT components as predictors of health behaviours

Behaviour	SCT Predictors	Studies
Physical exercise	Self-efficacy	Strauss et al (2001), Rodgers et al (2009, 2013) & Maddison et al (2014)
	Self-efficacy & outcome expectancies	Rovniak et al (2002)
	Self-efficacy & perceived impediments	Booth et al (2000)
	Self-efficacy, outcome expectancies, goals & perceived facilitators	Dewar et al (2013)

	Self-efficacy & environmental factors	Vorhees et al (2011)
	Self-efficacy, outcome expectancies & social support	Plotnikoff et al (2008)

Rovniak et al (2002), Luszczynska et al (2010) and Rodgers et al (2009, 2013) found 'perceived self-efficacy' to be a key instigating influence in forming intentions to exercise and in maintaining it for a prolonged period of time. Research using a motion detector/accelerometer monitoring as objective measures of physical activity have found that self-efficacy is connected to a high level of physical activity among adolescents aged 10-16 (Strauss et al, 2001). Specifically, in the context of physical activity, the testing of SCT components have shown that only self-efficacy was directly associated with behaviour at 12-month follow-up: however, outcome expectancies and social support were connected to goals only indirectly through self-efficacy (Dewar et al, 2013).

Still, the SCT does not account for an individual's tastes and preferences, rather their perceived ability to participate successfully in sport and/or physical activity. As suggested by Ramirez, Kulinna and Cothran (2012), in order to gain a better understanding of physical activity and alternative health behaviours using socio-cognitive theories, the combination of theoretical models may be required (Hagger, 2009). Conner and Norman (2005) have acknowledged a growing number of studies merging the SCT with the TPB (see section 3.1.6) or TTM (3.2.6), nevertheless the SCT should not be regarded as a strong predictor of behaviour change.

3.1.5 Theory of Reasoned Action

Ajzen and Fishhbein's (1980) TRA states that, "*behavior is determined by the behavioral intention to emit the behavior*" (Vallerand et al, 1992, p98). This implies that there are two major factors which determine behavioural intentions, namely: personal (attitudinal) and social (normative) (Vallerand et

al, 1992). According to Foster et al's (2005), "attitude is a function of personal beliefs about the perceived consequences of engaging in a behaviour and an evaluation of those consequences" (2005, p16). In other words, if the individual believes that by taking part in regular physical activity it would lead to more benefits, then it is highly probable that the individual would have a positive attitude towards participating in physical activity (McAuley & Blissmer, 2000; Maddison & Prapavessis, 2004). The attitudinal aspect is therefore enforcing one of the key aspects of the SCT, again emphasizing the similarities between both theories (Bandura, 1997). Subjective norms represent the "social pressure to engage or avoid particular behaviours" (Foster et al, 2005, p16).

Foster et al's (2005) systematic review further highlights that the probability of engagement increases significantly for an individual if any of the following points occur:

- positive physical activity prediction (enjoyment);
- increased benefits and minimal risks to physical activity participation;
- social approval towards physical activity participation; and
- social network is physically active.

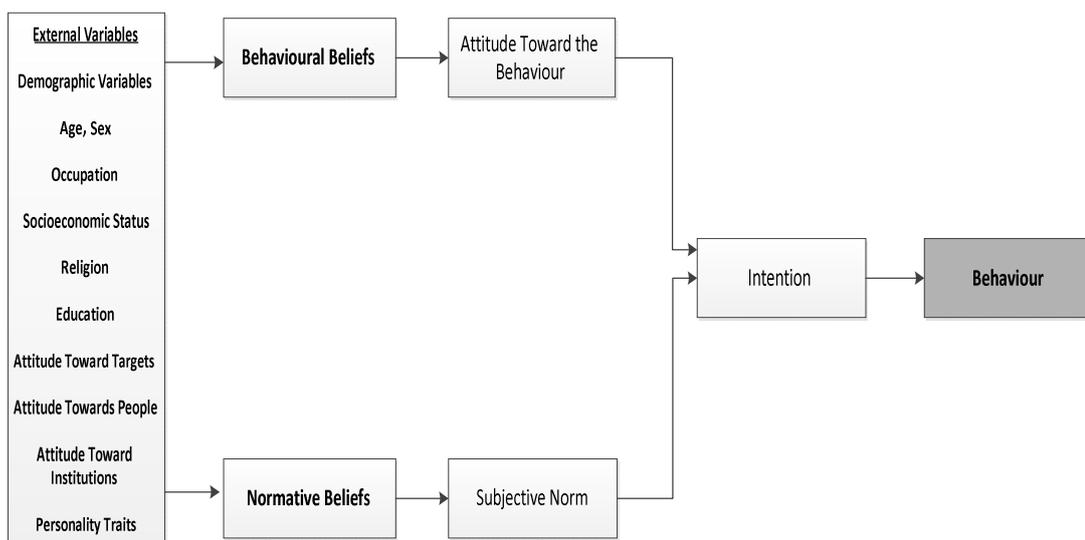


Figure 3.4 - Theory of Reasoned Action - adapted from (Ajzen, 1991)

Figure 3.4 above shows the factors, such as socio-demographics, that may influence an individual's attitude and belief in changing his/her physical activity behaviour (Foster et al, 2005). Each factor will affect the individual in different ways, through two different paths; however, all will ultimately lead to behaviour or behaviour change (Ajzen, 1991). However, the TRA does not acknowledge self-efficacy and control beliefs which are significant determinants of intention. The systematic review by Foster et al (2005) further emphasises the influence of an individual's social network (i.e. friends and family) when performing a specific behaviour.

Fishbein (2008) highlights that a TRA approach suggests a change in action, target, context and time, will change the behaviour under consideration. Therefore, this perspective acknowledges that an individual does not perform the same behaviour in different contexts, but rather performs different behaviours (Fishbein, 2008). In a sport setting, playing basketball at home is a different behaviour in comparison to playing basketball at the local sports centre. Empirical evidence gathered over the past thirty years, has led to the conclusion that specific behaviours may be predicted with significant accuracy, through the assessment of intention. However, Gibbons, Gerrard, Blanton and Russell (1998) proposed that measures of 'willingness' were distinct from measures of 'intention', due to the fact the former captures irrational, non-intentional and reactive influences on behaviour, highlighting the importance of clarity between the different measures. Fishbein (2008) argues that irrespective of how behaviour is defined, the TRA's single best predictor is 'intention'.

Dzewaltowski (1989) carried out a comparison test between the predictive utility of the TRA and SCT in the area of exercise motivation (328 students for seven weeks with post relation to prior measures of different cognitive factors), and found that TRA variables did not account for any unique variance in exercise behaviour after controlling for outcome expectations, self-efficacy, and satisfaction with physical activity and its outcomes. As established earlier in the chapter, self-efficacy is a significant predictor of behaviour change, as

should be accounted for when measuring attitudinal and behavioural change of major sport event attenders. Thus, the TRA is limited in its ability to predict behaviour change in sport and physical activity.

3.1.6 Theory of Planned Behaviour

According to Taylor et al (2007), both the TRA and TPB assume that *"the immediate cognitive precursors to behaviours are not attitudes but behavioural intentions"* (2007, p6); however, with an added construct called *"perceived behavioural control"* (Taylor et al, 2007, p6). The additional construct is regarded as the product of self-efficacy and control beliefs, and is viewed as a determinant of intentions along with behavioural attitude and subjective norms (Ajzen, 1988; Taylor et al, 2007). In sport, this may be seen when the probability of a sport event attendee taking up or raising his current levels of physical activity and/or sport is increased, due to a perception that the sport is relatively easy to play. Hagger, Chatzisarantis, Biddle and Orbell (2001) found that perceived behavioural control (PBC) emerged as a key predictor of behaviour in various different health domains, including physical activity. However, there is somewhat mixed evidence regarding the effect of PBC on behaviour (Armitage & Conner, 2001, Kaiser, 2006; Pradhananga, Davenport & Olson, 2015).

Researchers such as Boardley (2013) recommend that the TPB may be effective in demonstrating how a sporting event such as the Olympic Games increases people's intention to become more physically active. Nevertheless, when attempting to exhibit the 'demonstration effect', studies have relied solely on secondary mass participation data, creating the problem of attribution/causality (Malle, 2011). Emphasis should therefore be placed on the identification of the unique social-psychological motivations that support the behaviour change phenomenon (Boardley, 2013).

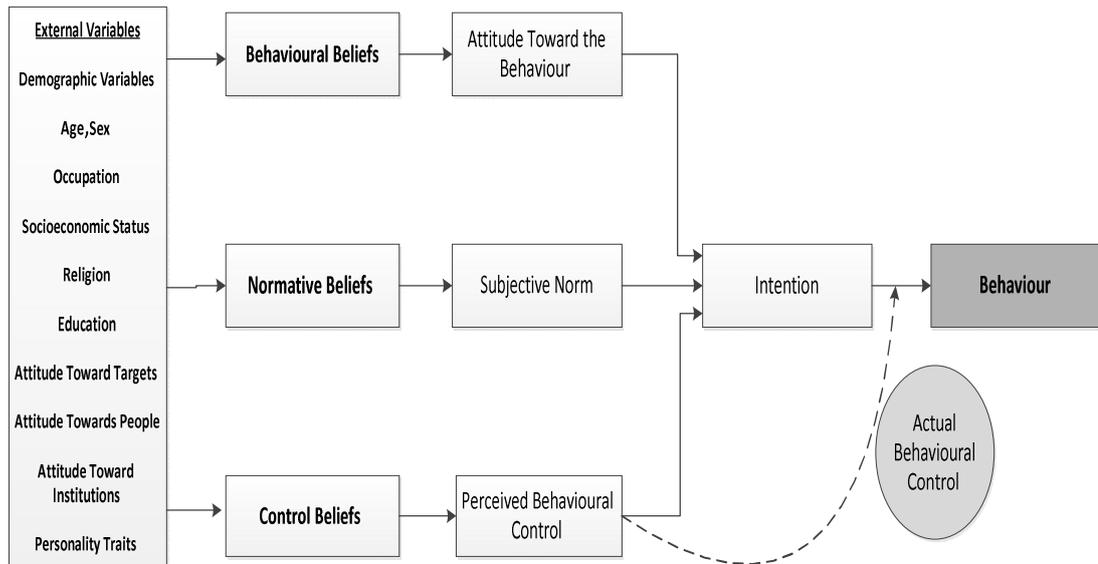


Figure 3.5 - Theory of Planned Behaviour (adapted from Ajzen (2006))

Figure 3.5 above illustrates the added construct previously named 'perceived behavioural control'. The three different constructs affect an individual's intention which has an overall effect on their behaviour (Taylor et al, 2007). As previously mentioned by Foster et al (2005), external factors are equally important in the TPB, as they may impact on the individual's decision-making choices, whether positive or negative. Potwarka & McCarville (2010) and Boardley (2013) however, have acknowledged the TPB as a relevant model in aiding the further understanding of the extent to which mega sport events may positively influence people to become more active, nevertheless it would be reasonable to also include major sport events.

Potwarka (2015) used the TPB to gain a deeper understanding of the motivational factors behind individual's intentions to be more active as a result of the 2010 Vancouver Olympics. The TPB model was explored using extensions which included descriptive norm, past behaviour, geographic proximity to the event and gender (Potwarka, 2015). In relation to the Vancouver 2010 Olympics, the most significant predictors of intention that emerged from the study were descriptive norms, past behaviour and attitude

toward the behaviour (Potwarka, 2015). However, the study only established the intention of the participants and failed to measure actual behaviour change.

Hagger, Chatzisarantis and Biddle (2002) suggest the incorporation of past physical activity behaviour when conducting an analysis in order to examine the influence of conscious social cognitions on an individual's intention and behaviour. Hagger, Chatzisarantis and Biddle (2002) state that, meta-analytic and narrative reviews of the use of both the TRA and TPB in the study of physical activity behaviour has suggested that PBC has an effect on intentions which is as significant as attitudes (Godin, 1993; Blue, 1995; Hausenblas, Carron & Mack, 1997). Equally, the reviews suggest that subjective norms prediction of intention is generally smaller than that of PBC and effect of attitude. This is consistent with Godin's (1993) notion that participation in physical activity places more emphasis on personal motivational judgements and is less subject to the influence of external social pressure. Thus, PBC is considered to be a strong predictor of intention and as a result is more likely to significantly contribute towards the measurement of attitudinal and behavioural changes. Nevertheless, Baruch-Mordo, Breck, Wilson and Broderick (2009) criticise TPB by highlighting the paucity of research relating behavioural intentions to behaviours or measuring behaviours in human dimensions research.

Hausenblas, Carron and Mack (1997) cumulative research synthesis of both the TRA and TPB in a physical activity context supported the applicability and utility of both theories in explaining intentions and behaviour in physical activity. Kraft et al (2005) point out that, a key strength of the TPB is the ability to predict a plethora of different behaviours across different populations using a restricted number of variables, which is valuable and applicable to the sport domain. The TPB provides a strong explanation of the proximal psychological influences on behaviour that may mediate other influences (Hagger, Chatzisarantis & Biddle, 2002). As Conner (2001) found, individuals are more likely to engage in health behaviour if they perceive that behaviour to lead to

outcomes which they value, and if they feel they have the necessary opportunities and resources to perform the behaviour. Therefore, in the context of major sporting events, it is important that the events are leveraged effectively, to provide attenders with information on available resources and opportunities to participate. Webb and Sheeran (2006) found that medium-to-large changes in intentions leads to small-to-medium change in actual behaviour. Miller (2017) criticises the TPB but stating that human behaviour is incredibly complex and the TPB assumes people are rational and elaborative in their thoughts when making decisions (Ajzen, 1991). However, this is not always true, and this assumption is regarded by McCleery et al (2006) and McCleery (2009) as a major limitation of attitude research. This results in the ignorance of the role that emotions, identity and other variables play on influencing behaviour. Nevertheless, TPB has managed to successfully predict behavioural intentions and inform management (Armitage & Conner, 2001; Manfredi, 2008). Thus, it has shown the strong relationship between the TPB components and behavioural intentions (Miller, 2017). The TPB could therefore be regarded as a strong predictor of behaviour change (Hausenblas, Carron & Mack, 1997; Potwarka, 2015).

3.1.7 Social Practice Theory

The SPT is the acknowledgement that human practices are themselves measures of numerous interconnected elements (knowledge, technology, meanings, physical and mental activities, and norms) which form people's behaviour/actions as part of their daily lives (Reckwitz, 2002). Behaviour is recognised as the sum of different factors that influence each other.

SPT places its emphasis on material contexts and socio-technical infrastructures, where practices occur and therefore draws the attention to their impact on human behaviour (Morris, Marzano, Dandy & O'Brien, 2012). Within the SPT, there is the notion of non-human factors, which point to background features such as roads, railways, bridges, amongst others, playing an active part in the process of defining, reproducing and transforming everyday life (Shove 2010). These factors include sporting infrastructure and

access to these (Maller, 2012). Hargreaves (2011) highlights three elements in the SPT, namely materials (infrastructure and equipment that would be necessary to partake in a sport and/or physical activity) (Shove & Pantzar, 2005, Shove, 2010), meanings (concepts, interpretations or images that may determine the 'how' and 'when' activities should be performed) (Reckwitz, 2002) and procedures (competencies or skills that dictate the form in which the activities are carried out) (Shove & Pantzar, 2005; Shove et al, 2012), which are made evident in figure 3.6. The three elements are deemed as fundamental for behaviour; however, the SPT does not focus on individual behaviour unlike the theories previously analysed.

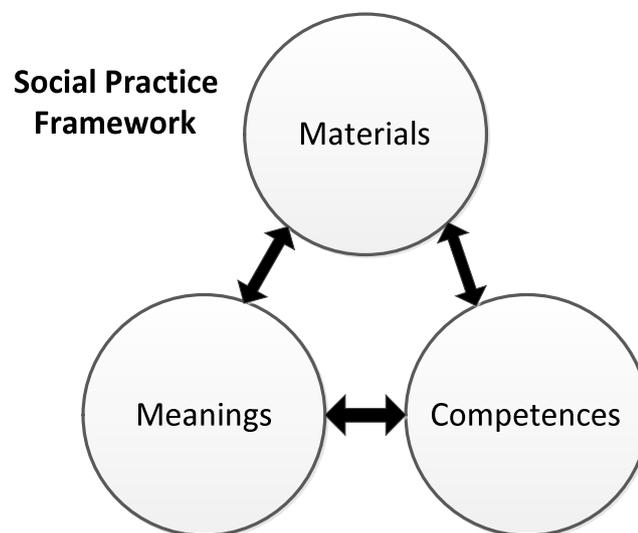


Figure 3.6 - SPT Framework (adapted from Shove et al, 2012)

The SPT allows for the explanation of behaviour; however, the focus is on social practice and their interaction with material contexts, rather than individual behaviour (Schatzki et al, 2001). An example of this would be how an individual utilises the available resources and acquired skills to participate in sport and/or physical activity (see figure 3.6). It is not just making the decision to participate in sport and/or physical activity, but also to be able to afford the resources and membership (economic capital), knowing where to

practice the desired behaviour (cultural capital), and being within a social setting where sport and physical activity is a norm (social capital).

The SPT enables an understanding of how an individual interacts and uses certain resources and skills to achieve a certain outcome (Shove et al, 2012). However, it does not facilitate the prediction and/or measurement of attitudinal and behaviour change. Moreover, the focus is placed on social interactions and does not acknowledge individual behaviour which is equally important. Therefore, SPT is not appropriate for the measurement of attitudes and behaviour changes, and should not be considered for the conceptual model.

3.1.8 Diffusion of Innovation Theory

As the name suggests, the DoI theory places its prominence on innovation, this being its primary cause of behaviour change (Michie et al, 2014b). Diffusion is defined by Rogers (2003) as the communicative process of innovation through the appropriate channels over a period of time, amongst members of a social system. Moreover, Rogers (2003) defines innovation as *"an idea, practice, or object perceived as new"* (p12), with its main application being in health, development and marketing (Greenhalgh et al, 2004).

DoI highlights the different roles of 'interpersonal' channels and 'mass media', with the channels being regarded as most effective in persuading the adoption of new behaviours (Rogers, 2003). Therefore, social systems (diffusion networks) are vital to the DoI, as these create boundaries around the diffusion. Furthermore, social networks and communication are said to be heavily connected, embracing concepts such as 'homophily' and 'heterophily' (Morris, Marzano, Dandy & O'Brien, 2012).

According to Morris, Marzano, Dandy and O'Brien (2012), homophily is the *"degree to which interacting individuals are similar in their attributes (e.g. education, social status, values)"* (p14), whereas heterophily has the opposite meaning (Morris, Marzano, Dandy & O'Brien, 2012). However, a weakness of homophily occurs in situations where different views or knowledge are required (Sahin, 2006). It has been argued by Rogers (2003) and Prell,

Hubacek and Reed (2009), that homophily and heterophily are needed in conjunction for diffusion of innovation to occur.

In sport, technology and the communication of ideas is significant, as media plays an important role in the broadcasting and promotion of sporting events, but are also applicable to sports clubs and athletes (Heidary, Honary & Behjanat, 2014). Therefore, the DoI could be applicable in the process of influencing event attendees, as communication plays a key role.

Bartholomew and Jowers (2011), Erwin et al (2011) and Holt et al (2012), state that 'physical activity promotion in the academic classroom' (PAPAC) can be an effective way of increasing primary school children's physical activity at school. Furthermore, Webster et al found that primary school teachers who *"perceive the school environment as more supportive of PAPAC will be more likely to view PAPAC favorably in terms of its relative advantage, compatibility, simplicity, trialability, and observability"* (2013, p435). Further findings show that primary school teachers who view PAPAC as compatible with their teaching philosophies and skills, and consider themselves innovative educators, are most likely to adopt PAPAC. Moreover, Hong (2012) points out the pressures to construct a new stadium as a type of diffusion of innovation, particularly in Baseball. These pressures could potentially occur within a social group in relation to sport and/or physical activity, whereby a social network influences an individual or group due to their practices and knowledge on the subject (Morris, Marzano, Dandy & O'Brien, 2012). Each individual is diverse, meaning social connections and diffusion of ideas will happen as a result of either heterophily or homophily.

Thus, the DoI theory would begin with the identification of the problem or need followed by a five-step process (knowledge -> persuasion -> decision -> implementation -> confirmation) (Morris, Marzano, Dandy & O'Brien, 2012). As can be seen, the DoI is in fact very similar to the Transtheoretical Model (TTM) in its process (see section 3.2.6). The DoI theory is embedded in different mediums which have an influence in people's attitudes and behaviours; however, it does not possess a strong predictive power of

behaviour and behaviour change. As a theory of attitudinal and behavioural change, the DoI is not appropriate for the measurement of actual changes in attitudes and behaviours, and the focus should be placed on other theories such as the TPB.

3.1.9 Programme Theory

In sport, many projects and events are embedded within policy, as policy makers believe these bring benefits to the hosting communities (Santos, 2008). When referring to physical activity programmes, Sandford et al (2006) state that social relationships experienced as a consequence of the participation is the most significant factor in effecting behaviour change.

In England, the 'Positive Futures' project began as a sport based national youth crime prevention programme targeting and supporting 10-19-year olds. However, as the programme developed it was acknowledged that crime reduction objectives were related to the on-going social and personal development of the participants (Coalter, 2012). Therefore, the programme extended its objectives in order to provide more opportunities such as education and employment opportunities (Home Office, 2005). Programmes evolve depending on different factors, and programme theory enabled 'Positive Futures' to expand its achievements into other areas other than purely the reduction of crime by using sport.

Programme theory is typically diagrammatical, usually referred to as logic models (Rogers, 2008), theory is embedded in everyday life, and this could potentially be an effective tool to analyse and test mechanisms by which the inspiration effect works and further the comprehension and evaluation of a project or intervention in sport, but lacks in the ability to measure attitudinal and behavioural changes. Therefore, it should be applied to the testing of mechanisms of the inspiration effect (see chapter 2) but is not suitable for the measurement of attitudinal and behavioural changes.

3.2 Conceptual Models in Sport and/or Physical Activity

3.2.1 Introduction

A conceptual framework is defined by Jabareen as “*a network, or a ‘plane’, of interlinked concepts that together provide a comprehensive understanding of a phenomenon or phenomena*” (2009, p51). According to Maxwell (2005), the purpose of a conceptual model is to simplify the explanation of concepts/phenomena, through verbal or visual representation. In turn, this allows for a degree of simplification in understanding and in most cases, turns the intangibility of a theory/idea into something tangible (Kaplan & Norton, 2004).

Models pertaining to behaviour change have been developed over time, with their application extended to various disciplines of the social sciences, including sport (Morris, Marzano, Dandy & O’Brien, 2012). According to Imenda (2014), the difference between a theory and a conceptual model is that a theory is a proposed system of ideas intended to explain phenomena, whereas a conceptual model is to a certain extent a simplified description of that system, allowing for theoretical predictions to be made and tested.

Figure 3.7 below shows the different types of models that will be discussed in detail later in the chapter.

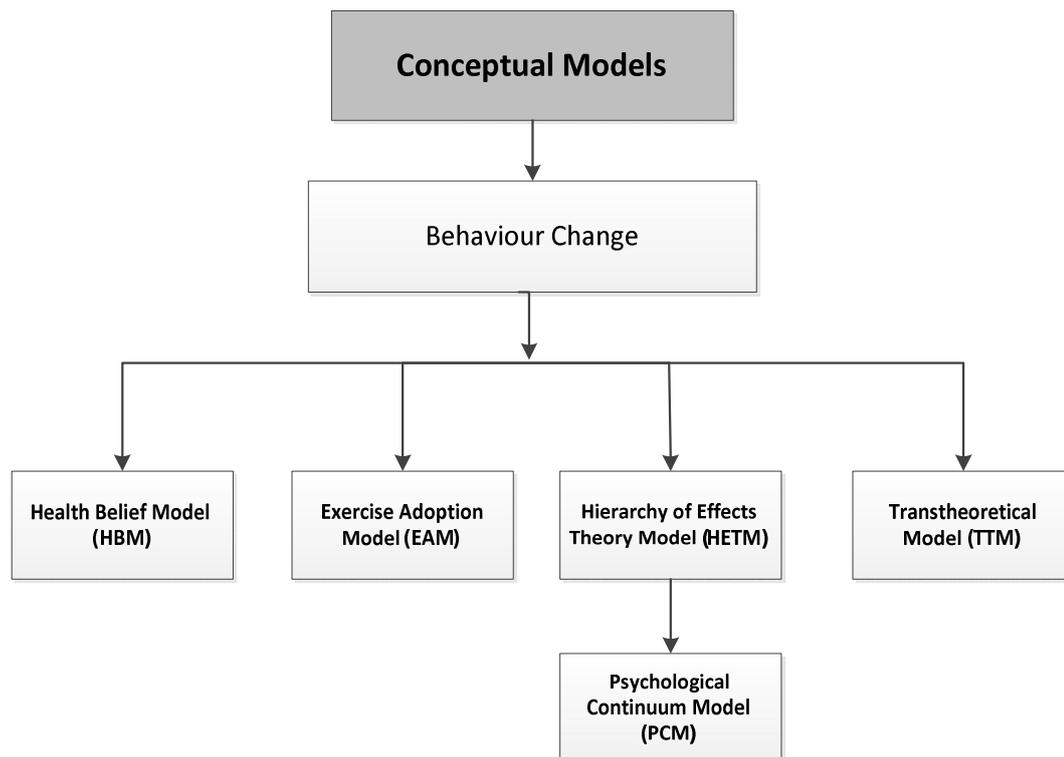


Figure 3.7 - Diagram of the different conceptual models

Although the models have been applied in sport, they each show different characteristics of human attitudes and behaviours. The HBM looks at the beliefs of individuals on the threats to taking part in health-related behaviours (Rosenstock, Strecher and Becker, 1988), while the EAM explores the individual's perceptions of sport and how these may or may not alter their behaviour in a negative or positive manner (Brooks, Lindenfeld & Chovanec, 1996). The HETM, shows the relationship between sport and its consumers (Vallerand, 1997), whilst on the other hand, the PCM looks at the relationship between an individual and a sport, namely the stages that go from being aware of the sport to being a full supporter of a team or sport in general (Funk and James, 2001). The TTM proposes that behaviour change occurs in five

sequential stages, therefore identifying processes of changes that lead to transition between the different stages (Prochaska et al, 1992).

Conceptual models have been used and adapted, in order to provide a framework for the understanding of an individual's psychological connection to sport (Eime et al, 2013). These provide an understanding for the reasons why people are connected to sport, both individually and in a team (Funk & James, 2001). The conceptual models, selected due to their potential ability to contribute towards effectively predicting behaviour change, include the: Health Belief Model (HBM) (Sharma & Romas, 2012), Exercise Adoption Model (EAM) (Brooks, Lindenfeld & Chovanec, 1996), Transtheoretical Model (TTM) (Prochaska & DiClemente, 1983; Prochaska & Velicer, 1997), Psychological Continuum (PCM) (Funk & James, 2001) and Hierachy of Effects Theory Model (HETM) (Barry, 1987). These will be critically analysed in more detail below.

The models mentioned above are used to explain the individual's psychological connection to sport and/or a team (Funk & James, 2001). Furthermore, the conceptual models enable the deep understanding of the different elements associated with the relationship between an individual and their attitude towards sport and/or physical activity (Funk & James, 2001). According to Taylor et al, the HBM, TRA, TPB and TTM are *"distinct models containing (in common with other psychological models of health behaviour change) a number of components"* (2007, p5). Armitage and Conner (2000) further state that the components are varied and range from unidimensional variables to complex multi-dimensional constructs. A common theme between the TTM, EAM and PCM is that they each suggest a staged process of engagement with sport and physical activity. They also describe the processes that relate to changes in intention, attitude and awareness; however, not actual behavioural change with participation as a defined outcome (Boardley, 2013).

Consequently, the previously mentioned models have been identified as the most appropriate to provide a deep analysis of attitudinal and behavioural changes of individuals following major sports event attendance. Their

application in a sport context will be analysed in this chapter, both on an individual or combination basis. An evaluation of the various models of behaviour change will be conducted in order to establish which can be utilised in this PhD in the measurement of actual attitudinal and behavioural change of major sport events attenders.

Appendix C provides a detailed overview of the positives and negatives of each of the different theories of behaviour and behaviour change, but also provides further evidence where applicable of their application in different contexts (evidence regarding the sport context is given in the main body of the chapter). In addition, it individually classifies each theory in accordance to their suitability for attitudinal and behavioural changes measurements.

3.2.2 Health Belief Model

The HBM (Sharma & Romas, 2012) is a,

"Cognitive model which posits that behaviour is determined by a number of beliefs about threats to an individual's well-being and the effectiveness and outcomes of particular actions or behaviours" (Morris, Marzano, Dandy & O'Brien, 2012, p6).

It attempts to predict and explain health behaviours by focusing on the attitudes and beliefs of individuals (University of Twente, 2012). Michie et al (2014b) state that the purpose of the HBM is to predict the probability of individuals undertaking a recommended action in order to avoid a health threat (disease/injury). Sharma & Romas (2012) advocate that the more positive the attitude and belief towards a specific action, the more likely the individual will attempt it. However, these attitudes and beliefs are part of wider determinants of both exercise adherence and non-adherence (Bianconi, 1998), which according to Cox (2007), include: exercise self-efficacy, intrinsic motivation, behavioural coping skills, mood state, physical discomfort and social physique. These determinants directly influence an individual's perception (either positive or negative) of sport and physical activity.

Morris, Marzano, Dandy and O'Brien (2012) suggest that some versions of the HBM feature Bandura's (1997) concept of self-efficacy, in conjunction with these beliefs about actions. Furthermore, Morris, Marzano, Dandy and O'Brien state that these beliefs are *"further supplemented by additional stimuli referred to as 'cues to action' which trigger actual adoption of behaviour"* (2012, p6). In other words, for an individual to change their behaviour, they must feel vulnerable or feel that their behaviour is under threat (Orji, Vassileva & Mandryk, 2012). The individuals will therefore view the possible consequences and act, with the view of preventing or reducing the risks (Nisbet & Gick, 2008). Ar-yuwat et al (2013) applied the HBM to investigate the impact of cues to action, perceived benefits, and perceived barriers on the level of physical activity among young school children. Results indicated that only perceived barriers (i.e fear of strangers when playing outdoors, bad weather and too much homework) was a significant influential factor. Ar-yuwat et al's (2013) finding of moderate level of physical activity is consistent with Sanamthong (2005), showing that obese children are less engaged in physical activity (recommended by current guidelines). However, Sanamthong (2005) measured the minutes of physical activity (moderate activity, 3-4x/week), in contrast to Ar-yuwat et al (2013). However, Ar-yuwat (2013) did not consider other potentially influential components of the HBM such as friends and family. These components are present in the TPB and are important when attempting to measure potential changes in behaviour.

Taylor et al (2007) argue that the HBM has a weak predictive power in the majority of health-related behaviour. Armitage and Conner (2000) attribute the previous weakness to a lack of validity in the psychological components of the model, lack of combinatorial rules and, a poor construct definition. Moreover, according to Zimmerman and Vernberg (1994), both the TRA and TPB have a greater predictive power regarding health-related behaviours in comparison to the HBM.

Abraham and Sheeran (2015) point to research which show that health beliefs can explain additional variance in intention beyond that stimulated by general

measures of attitude (Fishbein et al, 2001). However, the overall conclusion is that it would be reasonable to regard most HBM specified beliefs as antecedents of intention rather than predictors of behaviour (Abraham & Sheeran, 2015). Ultimately, the HBM is adequate for the prediction and measurement of intention, however inversely with respect to actual measurement of behaviour. Whilst intention is a strong predictor of behaviour, it is not the only component required to measure changes in attitude and behaviour. External influential factors such as the influence of family and friends should be taken into account.

3.2.3 Hierarchy of Effects Theory Model

Alternatively, the HETM offers a different insight on the relationship between a sport and its consumers (Vallerand, 1997). In the case of the HETM, it involves consumers (making a purchase) going through vertical stages of behavioural change (Ray, 1973). Lavidge and Steiner (1961) developed the model as a marketing communication tool, containing six steps from viewing to the purchase of the product. The different stages consist of motivation to complete an action (purchase), awareness of the product's existence, interest in all of the features of the product and to use the product by therefore purchasing it (Barry, 1987). The HETM demonstrates a similar process to the previous models, whereby there is consumers/spectators who will be aware of the event, attend the event, and thereafter possibly take up the sport (Funk & James, 2001). However, the HETM is also linked to the PCM, which as shown previously, could be regarded as not fully matured (Barry, 1987).

According to Craig, Bauman and Reger-Nash (2010), the HETM has been applied several times in the planning of mass-reach communication campaigns to promote health; however, the HETM has never been empirically tested. Although the HETM has been applied to sports sponsorship (Speed & Thompson, 2000; Alexandris et al, 2012), evidence of its application to sport and physical activity participation is scarce or non-existent, thus not being appropriate to measure attitudinal and behavioural change.

3.2.4 Psychological Continuum Model

On the other hand, there is the PCM which looks at a different approach of the spectator and sport connection (Funk & James, 2001; Shilbury et al, 2009). According to Funk and James (2001), the PCM focuses primarily on two main aspects, namely: the psychological relationship formed between an individual and a sport or sport team, and is able to identify the different influential factors of a strong connection to that sport or sport team.

The model consists of four stages, namely awareness (how individuals become aware of sports and their teams), attraction (individual is aware but may not like the sport or team), attachment (individual has formed a solid psychological connection with a sport or team) and allegiance (loyalty of an individual to a sport or team) (Gladden & Funk, 2001; Funk and James, 2006; Taghizadeh, Ghorbani and Benham, 2015). Beaton & Funk (2008) highlight that movement across the different stages may occur in either direction; however, there is also the possibility of movement stalling. Alexandris et al (2016) used the PCM in the study of leisure constraints amongst recreational mountain skiers and found that the intensity of perceived constraints decreased from Awareness to Allegiance.

According to Alexandris et al (2016), most of the current research using the PCM has been primarily focused on the attraction, attachment and allegiance stages. The reason for this rests with the fact that non-participants of recreational activities (awareness stage), are not included in the survey process nor incorporated in the research design. The relationship between leisure constraints and an individual's progression across the different PCM stages seem to be dynamic rather than isolated from the individual's social life (Alexandris et al, 2016). Thus meaning, it is highly likely that there will be a re-orientation of the individual's social life and consumer behaviour as the individual advances from each stage. A possible reason for this is to overcome any constraints that may appear and ultimately allow the individual to spend more time taking part in the leisure activity of choice.

Nevertheless, there are aspects of the PCM that could arguably be addressed, such as: *"how socialising agents influence awareness of sports at different points in the life cycle and the differential influence of various socialising agents over time"* (Funk & James, 2001, p144). Additionally, the factors that mediate the relationship between individuals and the sports/teams have not been examined (Funk & James, 2001). From the evidence provided, there seems to be a lack of research and examination regarding the extent to which the PCM shows the connection between a spectator and sport. Thus, Funk & James (2006) argue that although the model provides a way of integrating findings on the differences among and within spectators and fans, it lacks in other mentioned areas. The suitability of the PCM for the measurement of attitudinal and behavioural change is therefore very limited.

3.2.5 Exercise Adoption Model

The EAM (Brooks, Lindenfeld & Chovanec, 1996) suggests that the process of engagement in sport and physical activity follows a staged process which demonstrates the changes in attitude, awareness and intention. However, Funk & James' (2001) research shows that an individual's engagement with sport and physical activity may not be as linear as the EAM suggests. According to Anderson (1995), individuals may vary psychologically, meaning not everyone is the same in regards to the thought process. Thus, the same factors may influence people in different ways (McCormick-Brown, 1999). Each individual will have a different perception of sport and what they are able to do at a given moment in time. These different individual perceptions may alter the way in which an individual adopts exercise (Cox, 2007). Towers et al (2005) applied the EAM to investigate exercise adoption and maintenance in middle-aged men, and found that self-rated health is a significant barrier to exercise. Poor self-rated health may act as a barrier to physical activity, increasing the likelihood of men in poor health not adopting physical activity (Towers et al, 2005). Teixeira et al (2012) emphasise that motivation is a critical factor in the support for sustained exercise; however, motivation may come in different forms (Ryan et al, 2009; Markland, 2009). The EAM takes

into account individual's perceptions and attitude towards sport, but does not differentiate the various types of motivation. Evidence of the EAM's application is scarce; however, its characteristics have been used in studies such as Girling-Butcher (2006), which have tested exercise adoption.

In relation to the purpose of this PhD, the EAM is limited as seen previously. The inspiration effect is a form of motivation, which is not differentiated by the EAM, and therefore would prove inaccurate when applying it to major sport event attenders. Antecedents of physical inactivity which influence upon stage progression may be conducted through direct-effect variables (decision balance, pros, cons, self-rated health) could be included in a reconceptualised model of the EAM (mediating model) (Towers et al, 2005). Nevertheless, exercise adoption has been generally researched through the application of the Transtheoretical Model (TTM).

3.2.6 Transtheoretical Model

The TTM which was designed to *"integrate principles and processes of change from leading theories of psychotherapy and behavior change"* (Prochaska, 2008, p845), may be used to explain the inspirational effect in sports. Although the TTM was developed in order to aid the understanding of the determinants of smoking addiction (Prochaska et al, 1992), the model has nevertheless been adapted to show behaviour change in different contexts, including sport (see Appendix D). It has been increasingly regarded as an effective tool to help conceptualise how people might get into sport (Korologou et al, 2015). The aim is to clarify how people acquire a positive behaviour or alter a negative behaviour (Prochaska et al, 1992; Prochaska & Velicer, 1997).

Table 3.2 - Transtheoretical Model (Prochaska & Velicer, 1997).

Six changes of change	Behaviour change
Pre-Contemplation (S-1)	No awareness/intention of behaviour change
Contemplation (S-2)	Aware of needed behaviour change, planning for change but have not yet committed to change
Preparation (S-3)	Begin planning to make behaviour change and are committed to following through
Action (S-4)	Have implemented intended behaviour modifications in an effort to change behaviour
Maintenance (S-5)	Maintaining behaviour change and trying to prevent termination of behaviour change

The table 3.2 above demonstrates the six different stages of behaviour change, one of the models used by researchers. According to Pope, Lewis and Gao,

"while progressing through the aforementioned stages, individuals use different behavior change processes as each stage has different needs and requires different intervention strategies (eg, stage-tailored interventions)"
(2015, p1205).

The rationale behind a staged model such as the Transtheoretical Model is that the individuals who belong to a particular stage are likely to face similar barriers and problems, arguably meaning they may be helped and supported by the same type of intervention (Nisbet & Gick, 2008). However, in reality, these barriers may differ by individual, in addition to the manner in which they tackle the issues faced (different personality traits and skillsets).

As time advances, changes to an individual's health behaviours may be observed through their placement within the different stages of the TTM (Pope, Lewis & Gao, 2015). Brug (2005) suggests that stage-targeted activity

promotion interventions present a higher probability of inducing changes in motivation along with short-term behavioural changes. Reviews performed on the efficacy of the TTM point out that this theoretical framework is a practical method which enables the observation of physical activity behaviour change intervention correlates (Levy & Cardinal, 2006). Moreover, it has been used in the analysis of behaviour change of children (Annesi, Faigenbaum and Westcott, 2010) and adolescents (Sanaeinasab et al, 2013). This illustrates the variety of demographics which the TTM has been applied to. Nevertheless, Morris, Marzano, Dandy and O'Brien (2012) question this model, by asking *"how discrete the stages actually are and whether an individual must move through each (and not jump stages)"* (p9), thus highlighting some lack of clarity with the TTM.

Prochaska's models have however progressed over time and been adapted to different contexts. The most recent TTM in sport consists of four stages, namely Pre-Preparation, Preparation, Action and Maintenance, each with two sub-categories called Pre-Contemplators and Contemplators (see figure 3.8) (Ramchandani et al, 2017a). The latest research indicates that the 'pre-contemplator' (no intention to change in the next 6 months) to 'contemplator' (intention to change in the next 6 months) ratio decreases throughout the different stages of the revised TTM (Ramchandani et al, 2017a). This is likely because those in the latter stages of the model are already participating in sport on a regular or very regular basis; thus, the space to increase these levels is considered limited (Ramchandani et al, 2017a). On the other hand, participants in the 'pre-preparation' (no intention to change behaviour in the next 6 months) and 'preparation' (intention to change in the next month) stages demonstrated significantly high concentrations of 'contemplators' as they participated in very little or no sport at the time of the study (Ramchandani et al, 2017a).

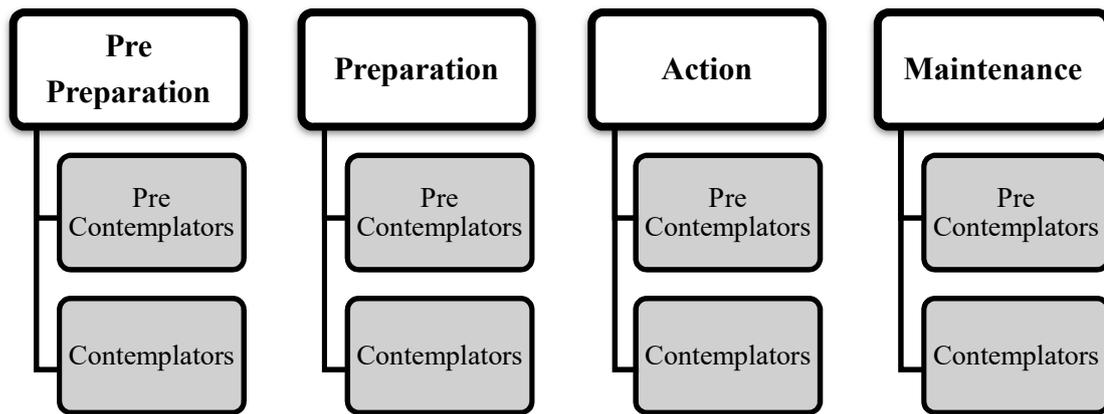


Figure 3.8 - Most recent TTM adaptation (Ramchandani et al, 2016)

Furthermore, the inspiration effect on 'pre-contemplators' (non-active participants) in the 'pre-preparation' stage (23.1 percent) was substantially lower compared to 'pre-contemplators' in the other stages (47.1 percent, 45.2 percent & 49.4 percent) (Ramchandani et al, 2017a). Nevertheless, 'contemplators' from the four different stages displayed comparable levels of inspiration (76.9 percent, 70.9 percent, 71.9 percent & 79.9 percent) (Ramchandani et al, 2017a). When comparing the inspiration effect for 'contemplators' within the different stages, it is acknowledged they were consistently higher than 'pre-contemplators' (Ramchandani et al, 2017a). As Mair and Liang's (2013) research suggests, spectators attending sports events have a tendency to possess a more 'sporting' profile background than the general population. Consequently, they are identifiable to the latter stages of the TTM (Ramchandani et al, 2017a). The findings concluded that the gap between the inspiration effect for both the 'contemplators' and 'pre-contemplators' was greatest amongst 'non-active participants' (53.9 percent) (Ramchandani et al, 2017a). Therefore, the inspiration effect is stronger amongst those who are already active, whilst non-active participants have been proven difficult to measure (Weed et al, 2012; 2015).

Nevertheless, the model above (figure 3.8) is based on inter-tier rather than general behaviour change (Ramchandani et al, 2017a). Additionally, the version shown above ignores the social context regarding any movement between the stages in which behaviour change occurs, and the relative influence of other life events. Therefore, there is a limitation with regards to the generalisability of the behaviour, and the need for a model which can measure actual overall behaviour change is further highlighted. Moreover, Ramchandani et al (2017b) did not apply the Processes of Change which could arguably be considered an essential component when attempting to measure changes in attitude and behaviour. Consequently, research should include the Processes of Change in the measurement of attitude and behaviour change for major sport event attenders.

Ramchandani et al (2017b) extended Ramchandani et al's (2017a) study, by incorporating follow-up data at least nine months post-event, however still applying the TTM as the framework for the research. Evidence shows that progression in terms of the TTM was found to be apparent in individuals in the 'pre-preparation', 'preparation' and 'action' stages (see figure 3.8). The use of the TTM as a guide for the study, Ramchandani et al (2017b) found evidence that may inform leveraging mechanisms, which in turn could potentially increase sport participation, particularly in relation to those individuals in the early and middle stages of the TTM. However, the TTM has its weaknesses, specifically not incorporating the facilitating and mitigating factors that may affect attitudinal and behavioural change. Moreover, there is a lack of proximal psychological influences on behaviour which is a key strength of the TPB. Thus, in essence, the TTM has proven to be a successful tool for the measurement of both attitudinal and behavioural changes in the context of major sporting events, and as a result, should be considered a key tool for this PhD. The TTM should be considered in conjunction with the TPB as the conceptual model which potentially measures actual changes in attitude and behaviour of event attenders.

3.2.7 Stimuli-Organism-Responses (S-O-R) Model

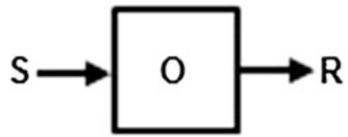


Figure 3.9 - S-O-R Model (Buxbaum, 2016)

The S-O-R model (figure 3.9) depicts stimulation and human behaviour, in other words, reaction and action, as being linked by an organismic component, and thus explaining responses to behaviour (Kleiber, 2011). This organismic component is composed by both psychological and biological structures and processes (Buxbaum, 2016). The underlying assumption is that the behaviour of individuals is most effectively understood when taking into account the influence of social situations (i.e environment conditions) and the influence of what people bring to the situations (i.e personality traits).

In sport, an adaptation of the model was applied by Potwarka et al (2017), where the stimulus was the Pan Am Games track cycling, the organism was the athletes participating, and the responses were emitted by the spectators of the event in the form of either intention or participation of the sport. Ultimately, the model showed that the *"nature of spectators' experience while immersed in an event may play a critical role in understanding a demonstration effect"* (Potwarka et al, 2017, p18). As a result, the study was able to model 'inspiration' and event-related consumptive cognitions, which may directly influence the exposure between an elite sport event and the responses by spectators. However, the study did not test the extent to which intention translated into actual cycling behaviour (Potwarka et al, 2017).

The S-O-R model may be seen as a strong model to measure the intention of major sport event attenders; however, on its own, it is not an appropriate model for measuring actual behaviour change due to not including key aspects such as personality traits. These personality traits highly influence tastes and

preferences of an individual, which in turn impact positively or negatively on behaviour. Additionally, the S-O-R model lacks in the Processes of Change which the TTM includes. Whilst Ramchandani et al (2017b) did not apply the Processes of Change in their study, these are essential when attempting to measure the behaviour.

3.2.8 Commonalities between theories and models

Coalter researched the *"effectiveness of sports-based interventions that sought to address issues of gang membership, racism, at-risk youth and a rather ill-notion of 'conflict'"* (2012, p594). The researcher's analysis induces a number of programme theories about how these projects may work and how they highlight the importance of social relationships (Davies, 2004a, 2005b). The findings show that when change occurs, it is mainly due to the systems of social relationships, which are an important feature of sport related programmes (Morell, 2010; Coalter, 2012). As acknowledged, there are a plethora of theories and models, however only a select few should be considered as strong predictors for the measurement of attitudes and behaviour changes of major sport event attendees.

Table 3.3 - Common characteristics of theoretical models of behaviour change (adapted from Foster et al (2005).

Theories & Models	Self-Efficacy	Outcome Expectations			Perceptions (Facilitators & Barriers)		Summary
		Physical	Social	Self-Evaluative	Interpersonal	Environmental	
Social Cognitive Theory	✓	✓	✓	✓	✓	✓	Perceived benefits of PA > perceived costs; + physical active = social disapproval I ≠ social
Theory of Reasoned Action	✓	✓	✓				
Theory of Planned Behaviour	✓	✓	✓				

Health Belief Model		✓	✓		✓	✓	disapproval;
Psychological Continuum Model		✓	✓		✓	✓	+ physical active = self-satisfaction and wider life goals;
Self-Efficacy Theory	✓	✓	✓	✓			Desirable outcomes - within an individual's personal control;
Transtheoretical Model	✓			✓	✓	✓	Some barriers to achieving desirable outcomes;
Social Practice Theory	✓	✓	✓				High opportunities & access to PA.
Diffusion of Innovation		✓	✓		✓	✓	
Exercise Adoption Model	✓	✓	✓	✓	✓	✓	
Hierarchy of Effects Theory Model		✓	✓		✓	✓	
S-O-R Model	✓	✓	✓			✓	
Programme Theory	-	-	-	-	-	-	Evaluation

Table 3.3 shows the overlapping determinants of each theory and model of behaviour change. As may be seen, there are a few commonalities such as the physical and social outcome expectations. This means that the individual's physical attributes and social approval or disapproval, play a role in the individual's behaviour change. It would be reasonable to suggest, based on the evidence provided in table 3.3, that a combination of both the TTM and the TPB would enable the incorporation of all of the key determinants. This would potentially allow for the measurement of both attitudinal and behavioural changes of major sporting event's attenders. However, it should be acknowledged that there is merit and strengths in the other theories and

models previously evaluated, their overall application in the context of sport and major events is limited. Considering the successful application of the TPB (Potwarka et al, 2015) and TTM (Ramchandani et al, 2017b), evidence provides a solid justification for the combination of both the TPB and the TTM as the conceptual model for the measuring attitude and behaviour changes over time of major sport event attenders.

3.3 The Demand for Sport



Figure 3.10 - Map of demand for sport and behaviour change

3.3.1 Introduction

In order to provide a further understanding as to the selection of the theory and model previously critically analysed, consideration about the demand for sport and physical activity may prove to be useful (Gratton & Taylor, 2000). This will enable acknowledgement of the various different factors that affect people's decision making and behaviour change.

3.3.2 Demand for Sport and Physical Activity Participation

The demand for sport encompasses both the decision and the frequency to participate (Downward et al, 2009). Veal (1994) highlights latent demand in sport and leisure as the demand that is not being achieved, but one which could be realised by certain actions. Mulder et al (2005) describe latent demand for leisure as the individuals who would like to participate in sport and physical activity, however, are not able to do so due to constraints such as transport, time, money and facilities. As such, the latent demand for sport may be seen as the underlying demand to participate, which requires either a change in circumstances, a supply to be given or for constraints to be

removed, which facilitates a positive change in behaviour, and consequently active participation (Bullough, 2012). The latent demand for sport has experienced significant growth in importance due to the targets (increased participation) connected to the legacy of the 2012 London Olympic Games. The harnessing of the latent demand will only occur, if an aspect changes which influences non-participants to participate.

Anokye et al (2012) investigated how demand for sports and physical activity is influenced by price and perceived benefits, and suggested that a change in price could potentially change the overall demand of sport (Humphreys & Ruseski, 2006; Finkelstein et al, 2008). Borland and MacDonald (2011) further highlight that a decrease in the price of sport and physical activity causes an unbalance in the equimarginal principle as the individual has greater utility from an extra unit of sport and physical activity in comparison to other goods. The equimarginal principle states that consumers will choose a combination of goods to maximise their total utility (marginal utility of A/price of A = marginal benefit of B/price of B) (Fizel & Fort, 2004). Thus, to maintain a balance, the individual will increase sport and physical activity consumption (Borland & MacDonald, 2011).

Human beings are regarded as rational people, they will only participate (or continue to participate) in sport and physical activity as long as the benefits from income outweigh the benefits of opportunity cost. Furthermore, Gratton and Talyor (2000) suggest that sport is 'non-durable consumption good'; meaning that the benefit that is most important to the consumer is generated at the time of the consumption. On the other hand, a 'durable consumption good' is regarded as a long-term benefit (such as physical fitness). Therefore, sport is a 'consumption good' that will only have long term benefits if it is consumed over a sustained period of time. It is up to the consumer to weigh up the potential satisfaction or utility level of sport, and establish whether it is worth its 'asking price' (monetary value and time). Participation in sport and physical activity is therefore affected by factors that will impact on the

prospective participants' preferences and ultimately may bear considerable weight on the results (participation or non-participation).

The Department of Health (2005) highlights that people may want to consume sport and physical activity in anticipation of both health and non-health benefits. The health benefits are those that maintain good health and the non-health benefits include the enjoyment factor (Humphreys, McLeod & Ruseski, 2011; Pawlowski et al, 2011). Nevertheless, it is suggested by Anokye et al (2012) that there is a lack of non-health benefits specification, so future research should be specifying these. The amount consumed at a given price will depend on the type and degree of the benefits anticipated (Borland & MacDonald, 2011). According to Anokye et al (2012), the perceived benefits act as demand shifters and enter the demand function through the 'tastes and preferences' element. Adler and Clark (2008) advances that although the current literature recognises the importance of the perceived benefits, these are not accounted for.

To provide robust estimates for perceived benefits and price, a variety of control variables including both economic and socio-demographic (Maddala, 2001) were applied to Anokye et al's (2012) study. These control variables were found by previous research, to correlate with sport and physical activity. These included household characteristics, working hours, employment status, income, educational qualifications and age (Lera-Lopez & Rapun-Garate, 2005, 2007; Gillison et al, 2006; Humphreys & Ruseski, 2006; Downward, 2007). Based on previous research, Anokye et al (2012) hypothesised that males with a high income and high levels of education would be positively correlated with sports and physical activity. Wilson (2002) found that amongst both men and women, income and education influence sports participation independently from one another. Additionally, better educated people are more likely to participate in sport regardless of their income status. The wealthier an individual, the more likely they are to participate irrespective of education (Wilson, 2002). In addition, age and working hours were expected to be a negatively correlated influence to sport and physical activity

consumption, however, with employment (employed status), the number of children and adults in the household is not clear as past research has generated mixed evidence (Anokye et al, 2012).

Further results show that from the small number of participants (n=60), around 12 percent did not participate in any sport and physical activity. Additionally, non-participants had the tendency to be older (mean age: 29.8 years) (Anokye et al, 2012), supporting Wilson's (2002) findings. It was found that the demand for sport and physical activity was negatively correlated with time (including travel or access time) and 'variable' price. However, demand was positively correlated with 'fixed' price. Nevertheless, only travel time appeared to be statistically significant across the board. Demand was generally inelastic, except for meeting the recommended level which was time price elastic. This means that a change in time and price can result in changes in demand. Coates and Humphreys (2007) support this evidence by stating that demand for attendance at professional sports events is inelastic in terms of the ticket price.

3.3.3 Influential Factors of Sport and Physical Activity Participation

The table 3.4 below illustrates the complexity and variety of factors that may influence an individual's leisure participation and expenditure choices. Personal, social and environmental, and opportunity factors may have an influence in an individual's adoption of sport and/or physical activity.

Table 3.4 - Factors that influence sport and physical activity participation

Personal	Social and Environmental	Opportunity
Age	Occupation	Resources
Gender	Education and attainment	Facilities
Ethnicity	Disposable income	Access and location
Personal obligations	Time	Transport

Attitudes and motivations	Friends and family	Costs: before, during & after
Interests and preoccupation	Cultural	Political policies
Health	Environment (Household & Social)	Awareness
Religion	Duties	Perceptions of opportunities
Perceptions	Personal background/upbringing	Support
Personality traits		

Even if an individual is motivated to participate in sport and physical activity, behaviour change will occur in a positive or negative way as a result of the influence of the factors mentioned above (table 3.4). The positive form is the adoption or increase of sport and physical activity participation, whereas the negative form represents inverse action. The factors highlighted in table 3.4 could be regarded as particularly influential. Nevertheless, in the eventuality that a group of individuals possess similar or even identical opportunities and circumstances, it does not guarantee that everyone in that group will choose the same activity. This highlights the importance of tastes and preferences when looking at sport and physical activity participation. Evidence provided by the DCMS (2016) shows that people with low education and with a limited income, will participate less in moderate intensity sport and physical activity. Additionally, for sport the main restriction for participation is perceived health status (DCMS, 2016). As already established in Chapter Two, age is an important factor when it comes to sport and leisure participation, however the impact will differ depending on the aspects mention above. Thus, there is a gap in the literature regarding the extent to which personal, social and environmental and opportunity factors may facilitate or mitigate ‘demonstration effects’.

3.4 Overall Conclusion

It was established that the difference between a theory and a conceptual model is that a theory is a proposed system of ideas intended to explain phenomena, whereas a conceptual model intended to be a more simplistic visual version of the system, allowing for theoretical predictions to be made and tested (Imenda, 2014).

There are a variety of theories and models of behaviour change that enable a deeper understanding of attitudes, behaviour and how these may or not change. Having conducted an in-depth analysis of both theories of behaviour and behaviour change, and conceptual models, the TTM and the TPB have been identified as the most appropriate foundation for the refined model. The reason for this judgement is as follows: the TPB has shown to have the strongest predictive power. Moreover, as Kraft et al (2005) stated, its key strength lies in the ability to predict a plethora of different behaviours across different populations using a restricted number of variables. Boardley (2013) and Potwarka (2015) both support the notion that the TPB enables the further understanding of the extent to which mega sporting events influence their attendees to become more active. Additionally, the TPB has demonstrated to encompass the various different factors including both internal and external, which may play a vital role in converting or not the individual's desire to both attend sports events and/or participate in sport and/or physical activity. The TTM has been widely used both in studies and sport strategies (Mair & Liang, 2013; Korologou et al, 2015; Ramchandani et al, 2017a, 2017b). Research conducted by Prochaska et al (1992), Taylor et al (2007), Ramchandani et al (2017a; 2017b) shows that the TTM has been applied to a variety of disciplines, with respect to attitude and behaviour changes. Furthermore, as recognised, the TTM has been successful in examining the determinants of smoking, from which the different interventions mentioned earlier on in the chapter have incorporated and thus, been successful in the process. Additionally, Ramchandani et al (2017b) have successfully extended the use of the TTM from attitudinal to behavioural measurement, and as a result, found

evidence which may inform leveraging mechanisms for increased participation in sport, particularly for those in the early and middle stages of the TTM. Based on the evidence provided, it would be reasonable to suggest that the TTM is a comprehensive model, in comparison to other known behaviour models, and could potentially be even more complete in relation to attitudinal and behavioural changes when combined with the TPB.

Sports participation is influenced by an individual's tastes and preferences (Jackson, 2005), with these being used in sport when measuring behaviour change. Ajzen (2006) highlights personality traits as a component of the TPB, which is directly linked behavioural, normative and control beliefs and consequently influence the tastes and preferences. These will in turn influence an individual's sport and physical activity participation.

The demand for sport (Demand Theory), allows a deeper understanding as to how an individual's tastes and preferences, as well as the price of admission/services influence the participation in sport and physical activity (Borland & MacDonald, 2011; Anokye et al, 2012). It is up to the consumer to weigh up the potential satisfaction or utility level of sport, and establish whether it is worth its 'asking price' (monetary value and time). The demand for sport and physical activity will be significantly increased if the utility (benefits gained) are higher than the income disposed and time spent. Research suggests that factors such as income and time (travel and work related), have a significant effect in participation levels of an individual (Downward, 2007). Nevertheless, other internal and external factors such as transport and access may be barriers which prevent participation, despite the individual acknowledging increased utility.

Thus, an individual's attitude towards changing behaviour will be determined by a variety of factors which are significantly influenced by their tastes and preferences. However, despite the potential inspiration effect resulting from a person attending a sports event, there are a plethora of internal and external factors which may influence an individual's participation in sport and physical

activity. A gap has been identified regarding the extent to which personal, social and environmental and opportunity factors may facilitate or mitigate 'demonstration effects'.

A combination of the newly refined TTM and the TPB, may contribute to a more efficient and accurate method of measuring attitudinal and behavioural changes. This may be achieved as the TPB accounts for a plethora of different variables which have an influence on individual's attitudes and behaviours (including external factors), whilst the refined TTM takes into consideration whether both active and non-active individuals in sport are to some extent thinking about increasing their level of activity, across the different stages of change (Ramchandani et al, 2017a, 2017b).

Chapter Four – Methodology

4.0 Introduction

As acknowledged in Chapter Two, many academics including Derom, Vanwynsberghe and Scheerder (2015), Ramchandani et al (2015), Ramchandani and Coleman (2015) and, Ramchandani et al (2017a; 2017b; 2019) have conducted studies which either accept the presence of the inspiration effect linked to sporting events attendance, or point to the lack of evidence to support the claim (Weed et al, 2015). The critical analysis of different studies showed many similarities amongst the different methodologies. For the purposes of this PhD, a combination of different approaches has been adopted, and justification provided.

The latest research (Ramchandani et al, 2017b, Ramchandani et al, 2019) highlights the difficulty in attributing causality despite identifying the attenders' intentions; however, it stops short of measuring the attitudinal and behavioural change of the sporting event attenders.

The following chapter will act as a research methods guide and offer a detailed discussion of the methodological approach adopted with the view of successfully achieving the overall aim. Moreover, this chapter provides a link between the theoretical framework and hypothesis, to the empirical results.

Additionally, the steps put in place for the maximisation of high research quality, including reliability, validity and credibility will be discussed and explained. Following this, a detailed analysis of the methods adopted for the gathering of primary data will be given. Before administering the data collection tools, cognitive testing, a pre-pilot study and a pilot study have been carried out to polish the methods used. The reasons for using a pilot study will be discussed, followed by the major sport event where it has been applied.

The type of sampling selected will be analysed and the strengths and limitations regarding the variation in size will be discussed. Following this, a detailed discussion of the important and need for ethical considerations will

take place. Furthermore, Triangulation will be defined and both the advantages and disadvantages of using it will be shown, justifying its incorporation in this PhD.

A discussion of the how the data analysis will proceed will be given, highlighting both qualitative and quantitative analysis. In addition, an overview of the research strategies and the one adopted will be shown. To conclude, any limitations that were encountered throughout the data collection process will be identified and explained, and the measurement model illustrated (see section 4.12).

4.1 Research Underpinnings - Inquiry & Philosophical Orientation

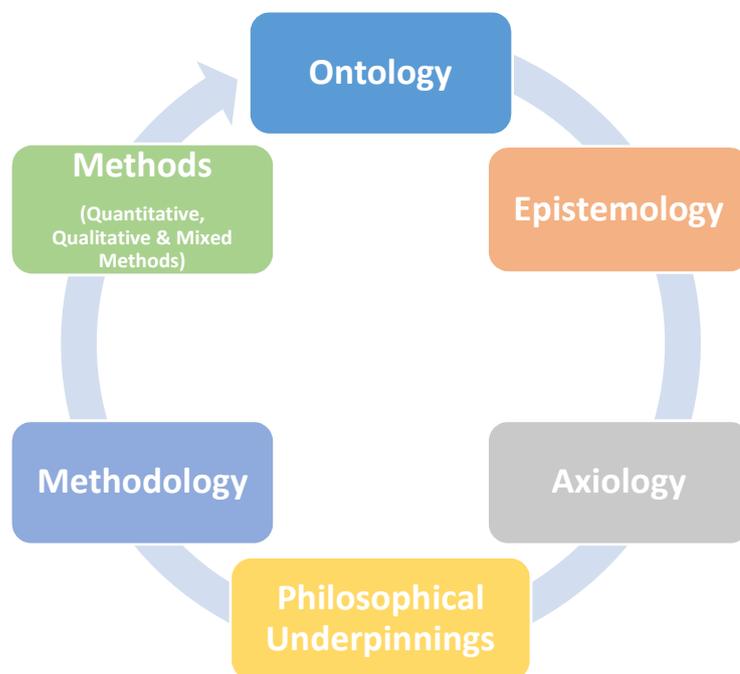


Figure 4.1 – Mapping of Chapter

4.1.1 Introduction

In order to have an in-depth understanding of the approach adopted for the collection of data, it is important to have an understanding of what is meant by inquiry and have a firm grasp of the different philosophical stances (Creswell, 2003; Bryman, 2008; Crotty, 2009; Veal, 2011). Inquiry, according to Michael (2002), is referred to as the search for truth, meaning a rational

process of resolving any doubts. (Creswell, 2014) suggests that there are three types of research inquiry, namely: quantitative, qualitative and mixed methods. These allow for the gathering of a diverse range of data; statistical and that related to feelings. There are other forms of inquiry, namely empirical, formal and philosophical. To facilitate the understanding of what these terms mean the example of 'what is science?' may be used. Looking at this question empirically, one would investigate what scientists do (Crotty, 2009). The researcher would go and observe scientists or use tools to aid their discovery senses (Veal, 2011). In a formal inquiry, a researcher would look at the processes which the scientists follow (i.e. in testing, statistics and search for themes) (Creswell, 2014). Through a philosophical lens, the researcher would attempt to find out what is ultimately occurring in the universe. This could be the search for whether causation is a real phenomenon in the world or a psychological mechanism that we impose on the world (Giorgi, 2009). This PhD combines the three forms of inquiry, with the aim of maximising the effectiveness and consequently the outcomes of the research process. Mallett and Tinning (2014) suggest that the philosophical underpinnings of research comprise of methodology, ontology and epistemology. These are frequently encountered when conducting social science research (Veal, 2011).

4.1.2 Ontology

Blaikie (1993) suggests that ontology is the science or exploration of being, in that it encompasses all that is out there to know (Grix, 2002). Gratton and Jones add that it "*refers to the philosophy of the existence and nature of phenomena*" (2004, p15). The Ontological view of both the natural and social sciences can follow different paths, namely Realism and Idealism respectively (Crotty, 2009). Opting for a given ontological stance will have wider logical implications for the epistemology (theory of knowledge). As Westhorp (2014) states, realist approaches assume that "*nothing works everywhere or for everyone, and that context really does make a difference to programme outcomes*" (p4). Westhorp (2014) emphasises the benefits of using a realist evaluation, with the potential ability to inform policy-makers and practitioners

on how, why, why not, for whom, to what extent, in what respects, over what duration, and in what circumstances does a programme work or not work. In contrast, Idealism views a reality that is believed to be immaterial or a mental construct, and is typically associated with a completely different epistemology, theoretical perspective, methodological approach and methods utilised.

This PhD encompasses a realist stance as it assumes the belief that it is possible to observe and record events that occur in the real world, objectively. Thus, following a realist perspective whereby attitudinal and behavioural changes are measured. Furthermore, the realist stance is in line with the overall aim of the PhD which tests the extent of the inspiration effect of a major sporting event in the UK, which include circumstances and influential factors that may affect the phenomenon.

4.1.3 Epistemology

The epistemological stance is concerned with the theory of knowledge and truth (Zakus et al, 2007; Bryman, 2008). In other words, relating to *"how we know what we know"* (Crotty, 2009, p8). Grix (2002) states it is *"what and how can we know about it"* (2002, p180) or the way in which the researcher approaches the study and consequently sets out to acquire the information (Gratton & Jones, 2004; Zakus et al, 2007). It is therefore concerned with the way in which phenomena exists (Malloy & Zakus, 2004). It examines what is regarded as acceptable knowledge, thus looking at how the nature of knowledge (ontology) may be acquired (Walliman, 2006). Feast and Melles (2010) propose there are three recognised epistemologies, namely: objectivism, constructionism and subjectivism.

The objectivist epistemology is based on the belief that reality exists independently from human consciousness and experiences (Grix, 2002; Bryman, 2008), and thus is consistent with realism. Those who adopt an objectivist stance believe that there is an 'objective truth', which can be uncovered by researchers provided they go about doing so in the right manner. A constructivist approach offers a middle ground between objectivism and

subjectivism. This stance holds the view that both truth and meaning are concepts that people create as a result of engaging their minds either with the outside world or with sensed experiences (Moore, 2000; van Harmelen, 2008). It is therefore possible for different people to construct meaning in different ways from the same observations. At the other end of the spectrum lies subjectivism, which has the interpretation where only an individual's perceptions are real, and that it is not possible to draw an objective reality from these perceptions (Saunders et al, 2009). Hence, a subjectivist believes that no true reality exists outside an individual's perceptions.

This PhD follows a combination of objectivism and constructionism as the researcher believes there is an 'objective truth' which is created through people's interactions and experiences, making it possible for the measurement and observation of attitudinal and behavioural changes.

4.1.4 Axiology

Axiology is referred to by Edgar (2015) as the "*study of value*" (p1805). According to Kivunja and Kuyini (2017) axiology is the process utilised by the researcher in order to acquire the data. In relation to sport, it explores a question such as why sport matters (Edgar, 2015). The process involves ethical considerations (McNamee, 2010), the type of data and methods chosen, and is viewed as being value driven (Edgar, 2015). If the PhD study was solely quantitatively based, then axiology would not be questioned; however, it encompasses both qualitative and quantitative data. Thus, researcher's values are to a certain degree embedded in the study; therefore, axiology is important (Kivunja & Kuyini, 2017). In relation to this PhD, Axiology provides a theoretical basis for the understanding of why people behave in a certain manner and how people should behave (Zakus et al, 2007). Thus, providing a theoretical foundation to examine the reasons why sports attenders change or not their behaviour when attending major sporting events.

4.1.5 Philosophical Underpinnings

The philosophical underpinning of the study is based on a mixture of Critical Realism, Interpretivism and Behaviourism (Gratton & Jones, 2004).

Interpretivism, according to Weber (2004), views truth as intentional fulfilment and there are defensible knowledge claims. According to Walliman (2006) it is the *"recognition that subjective meanings play a crucial role in social actions. It aims to reveal interpretations and meanings"* (p15). Interpretivism is about *"selecting strategies that respect the differences between people and the objects of the natural sciences and therefore requires a grasp of the subjective meaning of social action"* (Smith, 2010, p8). Furthermore, it accepts the knowledge of the world is constituted through an individual's lived experience (Weber, 2004). However, with Interpretivism understanding comes from a conglomerate of realities, contextual processes that focus on meanings, emerging theories and perspectives (Henderson, 2006; Veal, 2011). Thus, there is a strong reliance on people's own explanations of their situation or behaviour (Veal, 2011).

On the other hand, a critical realist accepts that all that is observed is fallible and therefore subject to error, and hence, 'truths' are subject to revision. This means that critical realism looks at the ability of humans to know reality with any degree of certainty in a critical manner. In other words, an external reality exists which is independent of human consciousness, but can nevertheless be known (Delanty & Strydom, 2003). Reality is assumed to consist of several domains, namely mechanisms (Danermark, Ekstrom, Jakobsen and Karlsson, 2006). Mechanisms sometimes generate an event, and when the event is experienced it becomes an empirical fact. In order to attain knowledge about the underlying causal mechanisms, focus needs to be on placed on such mechanisms, not only on empirically observable events (Danermark, Ekstrom, Jakobsen and Karlsson, 2006). As such, this study incorporated this philosophical approach as it sought to attain knowledge on the mechanisms surrounding attendance at an observable event.

A strategy that recognises the differences between people and objects of natural sciences is required, enabling the researcher to grasp the meaning of social action deemed as subjective (Bryman, 2008). People have different interpretations of social reality and therefore think and act in different ways (Markula & Silk, 2011). For that reason, Interpretivism has been incorporated in the study as it enables the understanding of actions conducted by the major sports events' participants.

Behaviourism is the study of the measurable aspects of the human behaviour (Ertmer & Newby, 2013). Plotnik and Kouyoumdjian (2014) suggest that the four main goals of psychology include the ability to describe, explain, predict and control behaviour. According to Bishop (2007), "*behaviour is strictly determined in various ways by environmental stimuli and reinforcing events*" (p192). Skinner (1974) researched the learning process and the impact stimuli had on it, consequently determining that by providing stimuli in a systematic way, it was possible to shape behaviour in desired directions. Bernstein et al (2008) highlights that Skinner's behaviourist learning theory, proposes that a stimulus increases the likelihood that behaviour will occur in the future. Moreover, McLeod (2016) emphasises another distinct characteristic, which is the extent to which environmental factors may influence behaviour. Nevertheless, there are both strengths and weaknesses with Behaviourism. The strong features include its high applicability (i.e. therapy), objective measurement and the plethora of experiments to support theories (McLeod, 2016). However, behaviourism does not take into account active human agency, meaning conscious self-awareness (Chalmers, 1996), generally facilitated via language. As Bandura (2006) suggests, the main properties of human agency include forethought, intentionality and self-reactiveness, which are not active in behaviourism. Moreover, behaviourism is unable to explain how people make decisions or negotiate between the variety of different goals and rewards. Behaviour may be reduced to a simple stimulus, namely response association. According to Watson, when applying psychology to the inspiration effect (stimulus) the purpose is to "*predict, given the stimulus, what reaction will take place; or, given the reaction, state the situation or stimulus is*

that has caused the reaction" (1930, p11). Figure 4.2 illustrates the definition of Behaviourism, highlighting the role of a stimulus.

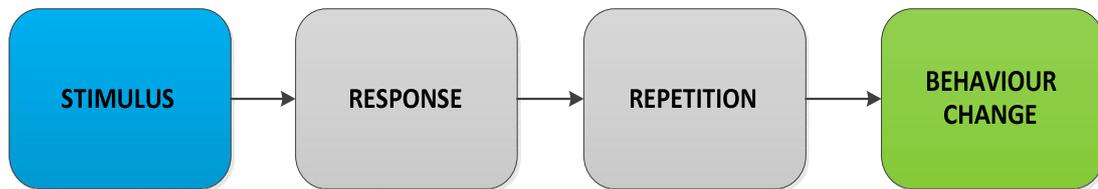


Figure 4.2 - Behaviourist Theory (Behaviourism)

The stimulus presented in this particular study is the 'Inspiration Effect', or more precisely the effect of a major sporting event on its attenders, and its impact on the sport and/or physical activity participation (Weed et al, 2012; Ramchandani & Coleman, 2012; Weed et al, 2015; Derom, Vanwynsberghe and Scheerder, 2015; Ramchandani et al, 2015; Ramchandani et al, 2016). This study tested the extent of this stimulus and measured the attitudinal and behavioural change of its participants. This type of research is normally associated with interpretative approaches (Jones et al, 2004; Taylor, 2014). However, it is important to stress out that, in adapting the different approaches,

“Each has differing epistemological and ontological assumptions, and each has differing implications for the methodology adopted by the researcher, the data that is collected, and the interpretation of such data” (Gratton and Jones, 2004, p15).

Table 4.1 - Overview of the philosophical underpinnings (adapted from Crotty, 1998)

Ontology	Epistemology	Theoretical Perspective	Methodology	Methods
<u>Realism</u>	<u>Objectivism</u>	Positivism Post-Positivism <u>Behaviourism</u> <u>Critical Realism</u>	Experimental research <u>Empirical research</u>	<u>Sampling</u> <u>Measurement/ scaling</u> <u>Statistical analysis</u> <u>Questionnaires</u> Focus groups
	<u>Constructionism</u>	<u>Interpretivism</u> Symbolic Interactionism Critical Inquiry Feminism	Ethnography Grounded Theory Phenomenological enquiry Heuristic enquiry Action research	<u>Qualitative interview</u> Observation Participant Non-participant Case study

Idealism			Discourse analysis	Life history
			Feminist standpoint research	Narrative Theme identification
	Subjectivism	Postmodernism	Discourse Theory	Autoethnography
		Structuralism	Archaeology	Semiotics
		Post-Structuralism	Geneology	Literary analysis
			Deconstruction	Pastiche
				Intertextuality

4.1.6 Methodology

Methodology refers to *“the techniques or procedures used to collate and analyse data”* (Blaikie, 2000, p8). It is *“concerned with the logic, potentialities and limitations of research methods”* (Grix, 2002, p179). Grix (2002) views methodology as a critical study of both research methods and their application, which effectively implies that the methodology should discuss how research will be executed. Blaikie (2000) further informs us that the methodology should give information on the researcher’s stance, the sample, both negatives and positives of research methods, ethical implications and how data will be

analysed. This PhD follows an empirical research methodology, by gaining knowledge through direct and indirect observation or experience.

4.1.7 Deductive and Inductive Process

As opposed to Induction, Deduction involves collecting data in order to test a prior hypothesis (Veal, 2011). It consists of the development of theoretical frameworks which are taken to the test by the usage of empirical observations (Imenda, 2014). This PhD has objectively collected data in order to test the extent to which major sports events are able to inspire people to increase their sport and/or physical activity levels.

The differences between both the deductive and inductive processes are illustrated in figure 4.3,

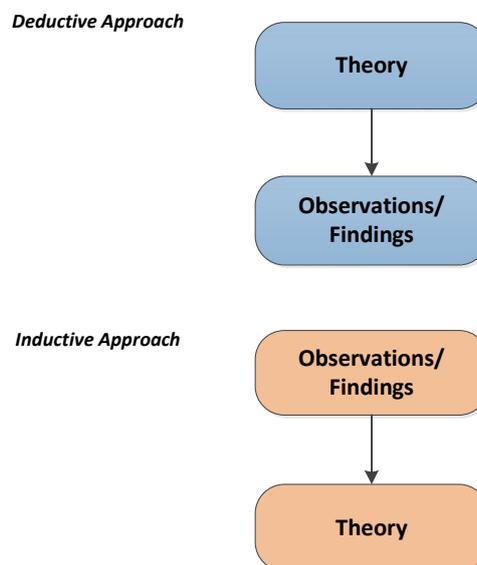


Figure 4.3 - Deductive and inductive approaches to the relationship between theory and research (from Bryman, 2008, p11)

As apparent from figure 4.3 above, the inductive process is particularly evident in grounded theory. This theory is defined by Punch (2014) as that which has been derived from data, which has been systematically gathered and analysed. However, this PhD takes the reverse approach (deductive process), whereby theory is recognised before collection and analysis of data.

Southern and Devlin (2010), highlight the main characteristics of both the deductive and inductive reasoning in table 4.2 below. They highlight that inductive reasoning begins with practice experience and moves toward complex understanding and judgment of well-established theories. This is exemplified in Charmaz's (1994) study which examined a number of elements regarding the experiences of people with chronic illness, using a sample of twenty men suffering from chronic illness and from this, theoretical reflections occurred from the data sets. Thus, theoretical ideas derive from the data, rather than being formed before the data collection. On the other hand, a 'top down' approach (deductive reasoning), starts with collective knowledge of effective practices and develops/advances understanding by means of replication and generalisation of findings (Southern and Devlin, 2010). As Bryman (2016) states deductive theory represents the relationship between social research and theory, whereby *“the researcher draws on what is known about a particular domain and on relevant theoretical ideas in order to deduce a hypothesis”* (p21), consequently translating it in an operational manner. Thus, the hypotheses are deducted from existing theory, which then guides the process of data collection for testing (Kelley & De Graaf, 1997).

Table 4.2 - Inductive and Deductive Reasoning (Southern and Devlin, 2010, p85)

Inductive Reasoning	Deductive Reasoning
Observing specific cases or events	Understanding is a function of current state of cumulative knowledge
Describing these "particulars"	Developing theories from one's understanding of events
Asserting an hypothesis	Deriving a hypothesis from a relevant theory and testing it
Conducting a test	Accounting for results based on theory
Obtaining results	
Building models and theories	

The figure 4.4 below taken from Bryman (2008, p9) shows the clear and logical Deductive research process,



Figure 4.4 - The process of Deduction - taken from Bryman (2008, p9)

A theory-testing deductive approach to research comes with some criticisms. Gill and Johnson (2002) argue that even though a hypothesis or set of hypotheses may be generally accepted by current findings, there is always the possibility that future research may recognise cases where the theory is not supported.

Ultimately, it has been acknowledged that there are different approaches to viewing and acquiring knowledge. Since this study is mainly based on realism, it is deductive by nature. In other words, the theory and hypothesis deduced from the research come first, which consequently drive the process for the collection of data (Bryman, 2008). The deductive process above will be used and adapted to this research, where theories and conceptual models will be used in order to test a hypothesis. As stated in the objectives, a new or refined

conceptual model will be developed, with the purpose of measuring attitudinal and behavioural change in sport and/or physical activity participation.

4.2 Research Design

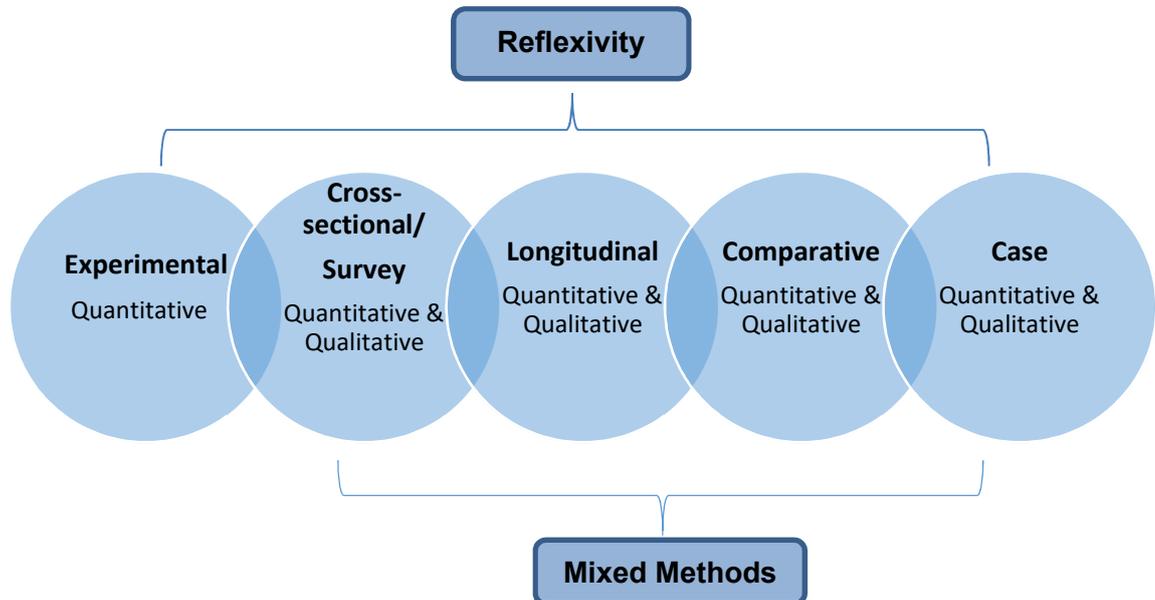


Figure 4.5 - Research Design Overview

A research design is typically referred to as the logical and systematic structure or plan by which the data collection may take place (Smith, 2010). In other words, it provides a framework for the collection and analysis of data (Bryman, 2008). Furthermore, the design adopted reflects the importance attributed to a range of dimensions which include:

- *"Expressing causal connections between variables;*
- *Understanding behaviour and the meaning of that behaviour in its specific social context;*
- *Generalising to larger groups of individuals than those actually forming part of the investigation;*
- *Having a temporal appreciation of social phenomena and their interconnections."* (Bryman, 2008, p31).

The PhD follows a cross-sectional/survey design, as *"a sample is surveyed and is surveyed again on at least one further occasion"* (Bryman, 2008, p49). Additionally, relationships will be identified, and causal relationships may be

put forward (Jones, 2015). However, despite using qualitative data tests to assess any potential existing correlations, this does not imply causation. Table 4.3 below provides an overview of the different research designs and their typical research strategy. It highlights the reason behind the adoption of combination of designs and strategies. According to Veal (2011), the data may be collected from a study framework which includes: schools, organisations, people, and households, amongst others. In this PhD, the data was taken from attenders of major sport events from a variety of different demographics, however the specific focus was on 16-25 years of age.

Table 4.3 - Research Designs (adapted from Bryman, 2008)

Research Design	Description	Research Strategy	
		Quantitative	Qualitative
Experimental	Deliberately imposes a treatment on a case in the interest of observing the response.	Typically employs numerical data comparisons between an 'intervention/treatment' case with a control case and would require research methods that allow for the collection of objective numerical data	Not typically employed within this paradigm.
<u>Cross-sectional/ Survey</u>	Involves collecting data on one or more cases at a single point in time. Collecting quantifiable data in connection with two or more variables allows for patterns of association to be determined.	Can involve collection of numerical data from surveys, observational approaches or literature/content analysis on a case at a single point in time.	Non-numerical data collected by interviews, focus groups, observation, etc., that relate to a single point in time.

Longitudinal	Cases are assessed at several different time periods. Usually used when interested in how people change over time.	Survey research on a case on more than one occasion or literature/content analysis relating to different time periods.	Mapping change over time through ethnographic research across periods, interviews on more than one occasion or through literature/content analysis.
Comparative	Involves studying more or less identical methods on two or more contrasting cases. Making comparisons implies the research can better understand social phenomena between cases/situations	Survey research where a direct numerical comparison is made between two or more cases, such as cross-cultural research.	Making direct comparisons through ethnographic or qualitative interviews/observations on two or more cases/situations.
Case	Where a case is studied intensively. A case may be individuals, programmes, or any unit, depending on what is to be examined.	Numerically oriented survey research on a single case with a view to revealing important features about its nature.	Applying ethnographic, qualitative interviews, etc., to intensively study a case, being an individual, team or organisation.

4.2.1 Mixed Methods Approach

Smith (2010) highlights the value of a mixed methods approach to sport, and names four key reasons for doing so: development (how results from one research approach may be utilised to inform the development of another approach), expansion (growth of knowledge through the application of

different research approaches), triangulation (the way which the research applies different research strategies to measure the same sporting phenomena) and complementarity (strategies which are used to research different dimensions of the same sporting phenomena to deepen and broaden understanding. Doyle et al (2009), Hesse-Beber (2010), Hagger and Chatzisarantis (2011), Horn (2011) and Moran et al (2011) further add to the benefits by including: offsetting weaknesses and providing stronger inferences, completeness, hypothesis development and testing, assisting sampling and enhancing generalisation. Culver, Gilbert & Sparkes (2012) conducted a review of studies between 2000 and 2009 and found that a total of 57 articles used mixed methods. From these, 31.1 percent were classified as qualitative in their selected sample. Out of the 57 studies, 10 employed systematic observations in conjunction with interviews, 23 used tests and interviews and 25 applied open-ended questions. It is thus reasonable to suggest that there is a growing acceptance of mixed methods research (Sparkes, 2015).

Nevertheless, Mason (2006) emphasises that despite the potential strengths of adopting a mixed methods approach, if done without a sound objective/valid justification may lead to fragmented and unclear research. Consequently, this would result in a challenging test of the researcher's capabilities. Mason (2006) adds that it is necessary to have a clear sense of logic and purpose regarding the approach adopted, and ultimately knowing what the researcher is attempting to achieve. Moreover, Creswell (2011), a leading advocate of mixed methods research, points out a wide range of controversies, including: basic issues of the legitimacy and meaning, philosophical underpinnings, and the pragmatics of conducting a mixed methods study. Johnson, Onwuegbuzie and Turner (2007), Creswell (2011) and McGannon and Schweinbenz (2011) argue that the term 'mixed methods' has multiple meanings, which is based on the perspective of the researcher. Sparkes (2015) supports this argument by stating that there is a problem regarding the use of terminology in research (i.e. paradigm, methodology and, methodology and method used interchangeably).

As this PhD is composed of both sociological (attitudes) and numerical (behaviour) components, it is based on mixed methods research, including qualitative and quantitative methods. Creswell and Creswell (2018) point out that by combining quantitative and qualitative methods, it is possible to gain the benefits of both and avoid the weakness of each when used on their own (Open University, 1996). According to Bryman, qualitative research has the objective of *“understanding of the social world through an examination of the interpretation of that world by its participants”* (2008, p366), whereas quantitative research, involves objectively measuring and analysing behaviours that can be observed (Gratton & Jones, 2010). Qualitative data is non-numerical and often gathered over a specific period of time (Veal, 2011). With this type of data gathering, the issue of ‘how many’ is not necessarily important or relevant. As Krane et al suggest,

“Placing a frequency count after a category of experiences is tantamount to saying how important it is; thus value is derived by number. In many cases, rare experiences are no less meaningful, useful, or important than common ones. In some cases, the rare experience may be the most enlightening one”
(1997, p214).

As stated, this PhD used a mixture of both Quantitative and Qualitative data; participants were questioned about the inspiration effect that major sports events, particularly the 2018 Women’s Hockey World Cup in London, had on their desire/motivation to increase their current levels of sport and/or physical activity participation. Figure 4.6 below shows the expansion of the different types of research regarding the usage of qualitative and quantitative data

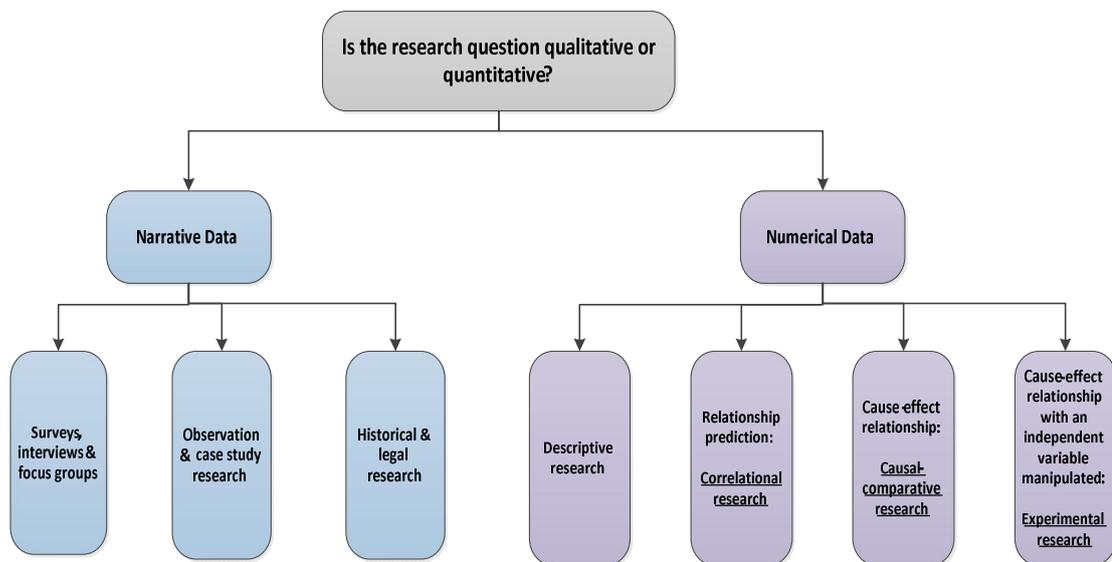


Figure 4.6 – Types of Research (Andrew, Peders, 2011)

There are several different characteristics regarding both of these types of research. The following table 4.4 highlights these differences:

Table 4.4 – Characteristics of quantitative and qualitative research (Gratton & Jones, 2010, p32).

Quantitative Research	Qualitative Research
Uses numerical analysis to measure social phenomena to provide ‘facts’.	Relies on non-numerical analysis to provide understanding.
Assumes a single, objective social reality.	Assumes social reality is a subjective experience.
Assumes social reality is constant across different times and settings.	Assumes social reality is continuously constructed and related to the immediate social context.
Uses statistical analysis to determine causal relationships.	Objectives are description, understanding and meaning.
Studies samples with the intention of generalising to populations.	Uses smaller samples, or ‘cases’.

Researcher is objective, and 'detached' from the subjects under investigation.	Data are rich and subjective.
The setting is often contrived.	The location of the research is often natural.
Data is collected using inanimate objects, for example pen and paper.	Flexible approach to data collection; often non-traditional approaches, e.g. content analysis.
Associated with the positivist approach.	The researcher is the data collection instrument.
Generally deductive.	Associated with the interpretative approach.
	Generally inductive.

In highlighting the differences between Quantitative and Qualitative research, Bryman points to three features worth mentioning: firstly, it's Inductive way, *"where the former is generated by the latter"* (2008, p366), secondly, Epistemology described as Interpretivist, the *"stress is on the understanding of the social world through an examination of the interpretation of that world by its participants"* (2008, p366) and thirdly, Ontology described as Constructivist, implying *"social properties are outcomes of the interactions between individuals, rather than phenomena 'out there' and separate from those involved in its construction"* (2008, p366).

4.2.2 Advantages & Disadvantages of Qualitative and Quantitative research

When analysing the use of both quantitative and qualitative research approaches, it is essential to identify their strengths and weaknesses. For quantitative data collection, strengths include: testing and validating of theories about how phenomena occur that have previously been constructed (Johnson & Onwuegbuzie, 2004); testing a hypothesis that has already been constructed prior to the data being collected, which allows for the

generalisation of the findings if random samples are substantial enough (Bryman, 2008); and the precise numerical data for statistical analysis (Stenius et al, 2000) which increases in credibility the larger the sample group (Veal, 2011). However, this approach also has weaknesses, namely: the categories used by the researcher may not replicate other's understanding of what is being researched (Johnson et al., 2004) and the knowledge produced through the data collection may be too generalised and abstract to be directly applied to specific contexts (Ritchie & Lewis, 2003; Maxwell, 2010). Furthermore, Ritchie and Lewis (2003) highlight that the use of quantitative data tends to detract from more valuable qualitative data.

In regards to the strengths of qualitative research, it encompasses points such as: being useful when dealing in depth with a limited number of cases (Gibson, 2012); being effective for describing phenomena which is deemed as complex (Atieno, 2009); allows for a dynamic process to be analysed (Johnson et al., 2004); it can establish how the participants interpret 'constructs' (Atieno, 2009); and it allows for the researcher to shift his/her focus as a result of any changes that may occur during the conduct of the study (Johnson et al., 2004). In other words, its intention is to generate knowledge grounded in human experience (Sandelowski, 2004). However, its weaknesses are: the knowledge gathered by the collection of data may not be generalised due to the uniqueness of the answers given (Johnson et al., 2004; Atieno, 2009); it is harder to make quantitative predictions (Anderson, 2010); it makes it more difficult to examine theories and hypotheses (Bryman, 2008); and its data analysis can be extremely time consuming (Anderson, 2010).

According to Gratton and Jones, the decision to opt for a quantitative or qualitative approach "*depends upon the nature of the research question and the objectives of your research*" (2010, p33). If the researcher is solely interested in the "*measurement of a particular phenomena*" (Gratton & Jones, 2010, p33) then the data will be quantitative. However, if the researcher is more interested in examining perceptions or feelings of people and therefore obtaining more detailed information (Veal, 2011), the qualitative data approach

will be more appropriate as these are harder to quantify. Furthermore, the researcher should choose the qualitative pathway if the epistemology preferences direct him/her to an interpretative study (Gratton & Jones, 2010). McFee (2010) suggests that qualitative investigations are best suited for statistical analysis, as a qualitative research deals with people where it *“recognizes the importance of the contexts which are sites of the subject’s characteristic behaviours – such as playing sport and training for it, or being a sports fan, or some such”* (McFee, 2010, p7). Ultimately, it is imperative to carry out qualitative research in a rigorous and methodical manner, in order to yield meaningful and useful results (Attride-Stirling, 2001). As the aim of this study is not only to measure but also to be interpretive in its nature, both qualitative and quantitative approaches were adopted. Nevertheless, it is essential to point out that there is no right or wrong approach, rather a more appropriate and effective way of carrying out a particular study.

Table 4.5 below illustrates the general difference between the two research approaches:

Table 4.5 – Difference between both quantitative and qualitative research (adapted from Bryman, 2012)

The process of quantitative research	The process of qualitative research
1. Theory	1. General research questions
2. Hypothesis	2. Selecting relevant site(s) and subjects
3. Research design	3. Collection of relevant data
4. Devise measures of concepts	4. Interpretation of data
5. Select research site(s)	5. Conceptual and theoretical work (a) Tighter specification of research question(s) (b) Collection of further data
6. Select research subjects/respondents	6. Write up findings/conclusions
7. Administer research instruments/ collect data	

8. Process data	
9. Analyse data	
10. Findings/conclusions	
11. Write up findings/conclusions	

The quantitative process as evident above is primarily concerned with scientific measurements and therefore, statistical analysis is a major tool when processing the data and coming to conclusions. On the other hand, the qualitative approach is focused on collecting deeper information such as thoughts and feelings which are difficult to capture through the statistics. As displayed by table 4.5 above, the differences are quite clear, with particular emphasis to the lengthier process of quantitative research. Nevertheless, according to Johnson and Onwuegbuzie (2004), the differences extend to axiology, logic, rhetoric, generalisations and causal linkages. However, Tashakori and Teddlie (1998) state that there is a false dichotomy between both approaches. As Onwuegbuzie and Leech (2005) highlight, utilising both techniques within the same framework, enables the incorporation of both of their strengths.

Despite there being differences amongst both approaches, Bryman (2012) argues that some features overlap, and therefore both may be used in conjunction.

4.2.3 Reflexivity

According to academics such as Holloway (1997) and Charmaz (2006), interpretive research should be reflexive. Teh and Lek (2018) state that reflexivity is the gold standard for determining trustworthiness, in other words, ensuring rigor and quality in qualitative research. Interpretivism, as previously acknowledged, theorises knowledge as a social and cultural construct, thus the researcher needs to take their own assumption and views into account, as to how these impact on the research process (Ryan, 2005). Finlay (2002) and Pillow (2003), provide different perspectives of reflexivity, whereby they

identify the need for the researcher to acknowledge multiple answers. Levy (2003) supports this by stating that it enables the researcher to use their personal interpretive framework on a conscious level, creating a foundation for the development of new understandings. Thus meaning, different insights to the same topic/problem should be taken in account. Nevertheless, the researcher should be mindful of how their personal views/assumptions may affect the research process. The researcher's position as an insider or outsider and whether they have shared experiences with the participants is very important when considering both the differences and similarities between both parties (Berger, 2015; Teh & Lek, 2018). The majority of the content about the reflexive process belongs to the data collection and analysis stages (Dodgson, 2019). Buetow (2019) supports Dodgson (2019) by suggesting the researcher should use triangulation (see section 4.8) and maintain an audit trail, which ultimately ensures a careful and transparent process. In relation to the qualitative study of this PhD, reflexivity was an essential component. Whilst reflexivity in practice can prove to be challenging (Mitchell et al, 2018).

4.3 Research Quality

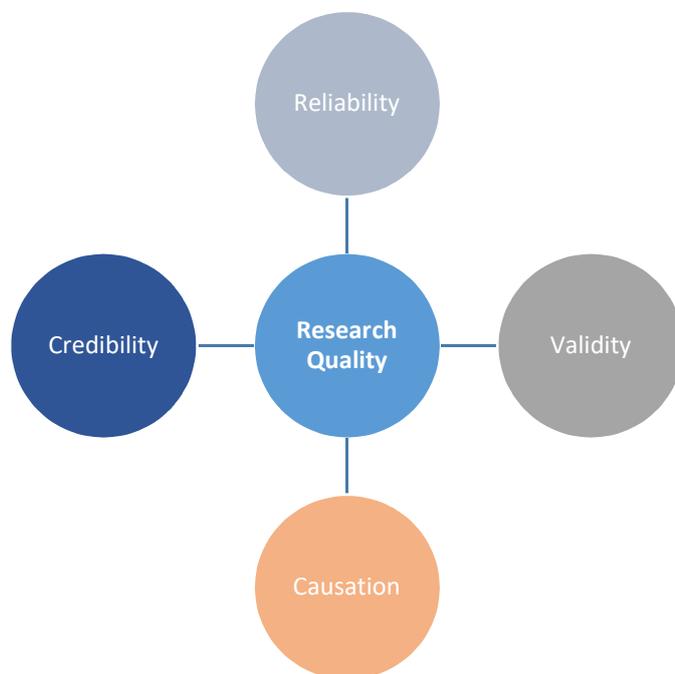


Figure 4.7 – Mapping of section

According to the University of Adelaide (2014), the quality of the sources used when conducting research is arguably important and should consequently be taken into consideration when planning the methods for data collection. Yardley (2000) proposed four criteria, including: sensitivity to context, commitment and rigour, transparency and coherence, and impact and importance. Two important aspects to take into consideration when choosing the appropriate methodology are reliability and validity (Bryman, 2008; Veal, 2011).

A characteristic of using a positivist approach is that reason, truth and validity are valued (Flowers, 2009). This means that the project has relied heavily on the reliability, validity and credibility foundations.

4.3.1 Credibility

Credibility addresses the question of how believable the sources actually are (Bryman, 2008). Bryman further suggests that reliability “*refers to the consistency of a measure of a concept*” (2008, p149). According to Noble and Smith (2015), in order to ensure credibility, elements such as reliability and validity need to be taken into consideration. This PhD has included only peer reviewed academic sources for the literature review (Chapters Two and Three) and has obtained primary data from 2018 Women’s Hockey World Cup attendees and stakeholders.

4.3.2 Reliability

Researchers such as Gill and Johnson (2002) suggest that reliability places its emphasis on the consistency of the results obtained in the research, meaning whether the same or similar results would be obtained by other researchers if they were to replicate the study. Hence, there is a high degree of importance in facilitating the replication by providing a clear guide of the methodological process taken in the research (Joppe, 2000). The concept of reliability places the emphasis on the consistency of the results (Zhu, 2013), which according to Golafshani (2003) is referred to as the stability of the measurements, where the results ought to be similar. Reliability in this PhD is

regarded as high, since it is replicable, but also there is a clear expectation for the results to be achieved in a consistent manner.

4.3.3 Validity

It is stated by Gratton and Jones that Validity is *“the extent to which measurements actually reflect the phenomena being studied”* (2004, 273). Furthermore, according to the Open University, validity is *“the truth: the extent to which an account accurately represents the phenomena to which it refers”* (1996, p1). On analysis, it may be fair to suggest that reliability is a pre-requisite of validity; in other words, it is possible for the conducted research to be reliable and not valid, but the opposite is not possible (Bryman, 2008).

Hagger and Chatzisarantis (2009) highlight the importance of ensuring the chosen methods conform to acceptable criteria of Validity, thus ensuring confidence that the tests conducted reflect an accurate effect on the chosen population. Validity may be broken down into two different segments, namely external and internal validity (McDermott, 2011). External validity refers to the *“generalisability or representativeness: to what extent can the results be generalised to a population wider than the particular sample used in the study?”* (Veal, 2011, p46), whereas internal validity denotes to how,

“Accurately the characteristics of the phenomena being studied are represented by the variables used and the data collected – sometimes referred as measurement or instrument (for example, questionnaire) validity – and the extent to which the study identifies and measures all the relevant variables” (Veal, 2011, p46).

Nevertheless, according to (McDermott, 2011), there are threats to Validity that should be taken into consideration when conducting research, including: non-response, lack of clarity, recall accuracy, concerns of privacy, researcher patience, non-completion, amongst others. The researcher aimed to reduce these threats by maximising the application and efficiency of the methods chosen. The model was validated through an examination of previous theories and models of behaviour and published research (Forward, 2014; Potwarka,

2015). The questionnaires were developed using the EIBC Model (Appendix K), and thus a connection is seen between the aim, objectives, model and questionnaires.

4.3.4 Link between Reliability & Validity

The relationship between reliability and validity is extremely important when evaluating the quality of the research conducted, and there is an imperative critique of what is actually achieved through conducting research using surveys (Bryman, 2008; Veal, 2011). Researchers such as Settle (1995) state that a common issue with the usage of surveys is the lack of control over all of the variables as in an experimental setting, which makes it impossible to examine causality (Bryman, 2016).

As previously mentioned, the sources utilised for the collection of primary data were attenders and stakeholders of a major sport event in the United Kingdom, making them credible, reliable and valid sources for the collection and analysis of all the data gathered. In terms of the secondary data, the sources are varied, and include published journals, books, reports and newspaper articles. Information was therefore carefully selected with regards to the aspects previously mentioned in the primary data collection, taking into account a hierarchy of evidence. It should be reiterated that only peer reviewed sources were used in the secondary research, and only attendees of major sport events are expected to fill out surveys and questionnaires. This maximised the reliability, credibility and validity of primary data collected (Open University, 1996; Bryman, 2008).

4.3.5 Determining Causation

A common criticism of using cross-sectional/survey methodology is the lack of control over the variables being used, which significantly increases the difficulty in examining causality (Alreck & Settle, 1995). Determining causation with regards to the 'Inspiration Effect' of attending major sports events has proven to be challenging (Weed et al, 2012; Ramchandani et al, 2015; Ramchandani et al, 2016), therefore, using the appropriate research design,

along with the right methods, is important to maximise the probability of established any potential causal effects.

4.4 Methods – Data Collection Instruments and Access to Data

The mixed epistemological view, including objectivism and constructionism, followed by an adherence to a part deductive and part inductive approach to research, have extensive methodological implications, particularly in the selection of appropriate data collection measuring instruments (Creswell, 2003).

Following the adoption of a combination of both Quantitative (deductive) and Qualitative (inductive) research (Smith, 2010), the best procedures that could be used to collect the necessary knowledge that would allow for the critical analysis of the research hypothesis, were determined. Even though there are a plethora of different tools available for the researcher to utilise, only a select few have been applied.

4.4.1 Methods

Crotty defines 'Methods' in research as *“the techniques or procedures used to gather or analyse data related to some research question or hypothesis”* (2009, p3). It is acknowledged by (Dolowitz et al, 2008) that there are multiple research methods that may be adopted in a particular methodology; however, some may be more appropriate than others when adhering to the underlying theoretical perspective. Rodwell (1998) highlights an example where holding both positivist and interpretivist assumptions about inquiry is not possible, however it is possible to conduct qualitative and/or quantitative research, whilst adhering to epistemological stances of each theoretical perspective.

The data collected was gathered using a combination of different research tools, such as surveys (structured self-completion questionnaires) which were developed and adapted to measure the during and post-event inspiration effect. Interviews were used to gain rich qualitative data in order to establish the connection between different independent variables. As suggested by

Marshall and Rossman (1995) participant observations enables the researcher to cross-reference different types of data within the same sample. DeWalt and DeWalt (2002) suggest that participant observation be used as a way to increase the validity of a study. Observation as a research tool enables the description of intentions, behaviours, situations and events as understood by the researcher (DeMunck & Sobo, 1998). Therefore, providing opportunities for viewing unscheduled events (DeMunck & Sobo, 1998). However, observations may be problematic if the researchers/informants are too similar and thus problems related to representation of events and interpretation may occur (DeMunck & Sobo, 1998). Nevertheless, this issue can be alleviated by pretesting those who are informing the researcher or selecting participants who are competent in the subject area (Bernard, 1994). Observational data was included in the data collection and analysis, relating specifically to the leveraging strategies, allowing for a more in-depth critical analysis. The fieldwork observations were conducted throughout the survey data collection and were used as a tool to provide further detailed evidence in relation to the responses obtain by the event attenders and stakeholders. Additionally, literature content analysis was conducted which allowed cross-referencing the findings to any existing studies and research (Smith, 2010). Table 4.6 below highlights what the different research methods consist of, along with a sports related example of their application.

Table 4.6 – A broad range of methods to the sport researcher (Smith, 2010)

Research Method	Description	Sport-related example
Clinical and non-clinical measurement	Any instrument, technique and/or procedure used within the natural sciences to make accurate objective numerical measurements of phenomena.	Collecting data by performing an incremental exercise protocol on a cycle ergometer to assess sub-maximal and maximal physiological responses.
Questionnaire	Any instrument consisting of a series of questions and other prompts, used for the	Collecting data by administering a series of linked

	purpose of gathering numeral and/or non-numerical data from respondents.	questions to assess mood state during exercises (POMS).
Observation	Any technique, associated procedure and data recording instruments that allow for the systematic recording of observable behaviour of individuals or groups.	Watching and listening to how a coach interacts with a group of beginner swimmers during their first formal poolside lesson.
Literature/content analysis	Any technique and associated procedure that seeks to organise written, audio, and/or visual information into categories and themes related to the central questions of the study. This approach is especially useful in product analysis and document analysis.	Collating and analysing all newspaper, magazine, television and radio interviews conducted with members of the England cricket team over a one-year period.
Interview	Any technique and associated procedure that involves a conversation between two or more people (the interviewer and the interviewee) where questions are asked by the interviewer to obtain information from the interviewee.	Meeting with recreationally-inactive elderly ladies in order to assess their attitude to exercise.
Focus groups	Any technique and associated procedure where a group of people are asked about their attitude towards something. Questions are asked in an interactive group setting where participants are free to talk with other group members.	Meeting and asking a group of exercise professionals about their views on the success of the GP Exercise Referral scheme.

4.4.1.1 Data Collection Instruments

4.4.1.1.1 Surveys

Creswell (2005) suggests that the utilization of quantifiable data is perceived to have more rigor. As found by Crowther, Bostock and Perry (2015), 64 percent of the methods utilised in events research has been primarily quantitative survey-based methods. This PhD study therefore used surveys as a primary form of data collection.

4.4.1.1.1.1 Questionnaires

A substantial number of questionnaires were collected (n=407 during-event and n=47 post-event) from spectators of the London 2018 Women's Hockey World Cup. The participants of this study range from 16 years and over, with the primary focus being on attenders aged between 16 and 25. These questionnaires were carried out in a type of non-probability sampling, namely the Convenience sampling, which is "*one that is simply available to the researcher by virtue of its accessibility*" (Bryman, 2008, p.183). According to Saunders et al (2007), it highlights the process as one of "*selecting haphazardly those cases that are easiest to obtain for your sample, such as the person interviewed at random in a shopping centre...*" (2007, p234). This means that the response rate is likely to be very high as the targeted population is very accessible to the researcher. The response rate at the 2018 Women's Hockey World Cup was high, thus supporting Saunders et al (2007). This supports the rationale to positivism and behaviourism being the philosophies behind the study (Kitchin & Tate, 2000). According to Robson (2002), questionnaires have the objective of acquiring the attitudes and opinions of the sample population, which in this case are the attenders of a major sport event in the UK. Gratton and Jones (2004) suggest that questionnaires are very useful for collecting quantitative data from large sample groups.

However, there is a restraint to using such sampling strategy as it makes it impossible to generalize the findings (Bryman, 2008, p.183). The reason for this is that it is not known of what population this sample is representative. Questionnaires are recognized by many researchers including Mason (2002) and Silverman (2004), as the most appropriate tools to interact with both types of data. The data and methods allow for the analysis and subsequent discussion of the 'Inspiration Effect' on major sports events attenders' attitudinal and behavioural changes.

Self-completion questionnaires may be used in different forms. According to Bryman (2008), the most prominent forms are: postal and mail. For this PhD,

the adopted form was the personal hand-out and completion of the self-completion questionnaires. The advantages are vast, and they include being cheap and quick to administer, but also it is more convenient for the respondents and there is no need for the administrator to be present (Bryman, 2008). Dolowitz et al (2008) emphasise the flexibility of the administration of a questionnaire by highlighting that the participants may *“fill in the questionnaire at a convenient time if necessary, or be able to go back to the questionnaire at a later time if they recall anything further”* (Gratton & Jones, 2010, p129). This situation may arise in the data collection as the questionnaire may be emailed, or handed in for future collection, or a message/card may sent/given with a link to download the questionnaire. Furthermore, there is a potential decrease in bias, as with a *“well-designed questionnaire there is little opportunity to introduce bias into the results as may be the case with interviews”* (Gratton & Jones, 2010, p128), with an example of this being *“through the way you respond to an answer, or your body language, or simply your presence in observational studies”* (Gratton & Jones, 2010, p128). Nevertheless, it should be carefully noted that if the questionnaire is not well designed, it could still lead to bias in the data collected by the researcher (Gratton & Jones, 2010). Thus, it is important that the questionnaire is designed with this reflection in mind, and such was the case for this PhD.

The data provided by the administration of a questionnaire is structured, as these tend to *“provide highly structured quantitative data that is easily comparable”* (Gratton & Jones, 2010, p129). However, it is not the most effective means to collect data when administered on its own. The main disadvantages include not being able to prompt, probe and respondents can read the whole questionnaire before answering which may mean a change in validity and credibility. The fact that the researcher is not able to be present during the postal survey, may lead to some misinterpretations of the questions presented, which may have an impact in the final results obtained.

4.4.1.1.2 Questionnaire Design

The design of a questionnaire is an important aspect which has been taken into consideration. Constructing an efficient and simple design has made the questionnaire more appealing for completion at a major sports event. Therefore, the employment of closed questions is deemed as more appropriate as they require significant less effort to answer in comparison to open questions. Participants, whose motivation to complete a questionnaire may be low, can be persuaded to fulfil the task if presented with one that is easy and quick to fill in. Closed questions offer this to the participants, thus encouraging participants to take part in the research (Reja et al, 2003). Additionally, closed questions reduce the probability of missing data, as there is no probing in questions (Bryman, 2016). A Likert scale in the form of tables was implemented in the design as it enabled for a more accurate reading of the participant's self-esteem/PBC levels (Appendix G1, Q4) and processes of change across the TTM. The statements used to measure the processes of change are illustrated in table 4.7 below.

Table 4.7 – Processes of Change Statements from the event-based and post-event surveys

Past experiences in sport: My previous experience in Hockey and general sport and/or physical activity was very positive.
Social pressure: I feel social pressure (by friends, family, etc) to participate in Hockey and general sport and/or physical activity.
Desire to participate: I feel the desire to participate in Hockey and general sport and/or physical activity.
Recalling information about consequences, benefits and opportunities: I recall information people have given to me regarding the benefits, consequences and opportunities of participating in Hockey and general sport and/or physical activity.
Environmental Re-Evaluation: I consider my participation in Hockey and general sport and/or physical activity is beneficial to the people around me and to the overall environment (traffic, pollution, etc).

Counter Conditioning: I am likely to substitute inactive/unhealthy activities for participation in Hockey and general sport and/or physical activity.
Stimulus Control: I am able to generally avoid temptations to be inactive, and as a result add new reminders to do active alternatives.
Social Liberation: I am aware of alternative free recreation activities available in my community which don't involve exercise.
Self Re-Evaluation: Participating in Hockey and general sport and/or physical activity positively impacts on my physical image.
Helping Relationships: I believe I have the support of my friends and family when I participate in Hockey and general sport and/or physical activity.
Self-Liberation: I am committed towards participating in Hockey and general sport and/or physical activity.
Dramatic Relief: I react emotionally to recommendations or warnings about participating in Hockey and general sport and/or physical activity.
Contingency Management: I reward myself whenever I successfully manage to control the urge to be inactive/unhealthy, by taking part in more Hockey and general sport and/or physical activity.
Decisional Balance: I believe the benefits of participating in Hockey and general sport and/or physical activity outweigh the costs/negatives.

The statements in table 4.7 above have been adapted to the 2018 Women's Hockey World Cup. Participants were thus asked to rate the above statements on a 6-point Likert scale, which enabled the understanding of how shifts in behaviour occur for the attenders in the event samples.

4.4.1.1.3 Interviews

According to Bryman (2008) structured interviews are used in social research to gather all types of information from the interviewee, such as: behaviours, attitudes, norms, beliefs and values. However, numerical data may also be gathered through application of this method. It allows the interviewer to pick

out specific details that would not come out from a survey or questionnaire, thus allowing a degree of freedom of expression (Jones & Wallace, 2005; Santos et al, 2013). Dolowitz et al (2008) suggest that an additional advantage is the range and depth of information that may be obtained. Nonetheless, there are some limitations to using a structured interview which include: the influence of the interviewer on the respondents and the possibility of there being systematic bias in the answers (Bryman, 2008). It is possible that if the interviewee is not at ease with the interviewer, his/her answers may not be truthful or forthcoming. Further limitations consist of interviews being time consuming and the data being hard to analyse (Dolowitz et al, 2008).

Interviews were used to collect qualitative data from the key stakeholders (England Hockey and UK Sport) of the 2018 Women's Hockey World Cup (Appendix R). These interviews were conducted post-event and with a variety of members of the England Hockey events team and one UK Sport member who was involved with the event and who liaised with other UK Sport staff at the event. Whilst the interviews were initially structured, the interviewees were able to talk about their leveraging involvement in their specified roles more freely.

4.4.2 Organising Access to the 2018 Women's Hockey World Cup for Data Collection

As discussed in Chapter Two, the impacts of sporting events will vary depending on their magnitude. The impact tested was the inspiration effect, which ranged in the level of influence it had on the attenders of the major sporting event. The smaller the size of the event, the more likely the inspiration effect will be less significant compared to a major or mega sports event. For the purpose of the study, the 2018 Women's Hockey World Cup was chosen as it offers the opportunity to obtain a big sample and takes place more often than mega events.

In line with the ongoing UK Sport and SIRC research programme partnership, the sporting event selected is integrated within this cooperation. Permission

was requested from UK Sport, England Hockey and SIRC to conduct research at the 2018 Women's Hockey World Cup under the partnership (research programme) (Appendix E).

The 2018 Women's Hockey World Cup represents the pinnacle of female Hockey, an event part of UK Sport's Gold Event Series. This is UK Sport's major events programme for the period 2013-2019, with the aim of helping National Governing Bodies (NGBs) bid for and stage some of the of the most notable major sporting events in the United Kingdom (UK). Therefore, this event was funded by UK Sport and hosted in the Lee Valley Hockey and Tennis Centre at the Olympic Park in London between the 21st of July and the 5th of August 2018. The event consisted of a group stage, followed by knockout matches which lead to a final match to crown the best international women's hockey team of 2018. The participating teams were from a variety of continents, but included countries such as England, Scotland and Ireland. Moreover, England and Ireland reached the semi-finals and final respectively, meaning there was a big home crowd support for both these teams. The results were collated from a total of eight days of during-event data and post-event data.

4.4.3 Research Methods Paradigm

The questionnaires were designed and validated using implemented questions from previous research surveys. Questions were adapted from the 'Sport England Survey of Sports Facility Users' (Appendix P) and a research survey designed by the Sport Industry Research Centre (Appendix Q) at Sheffield Hallam University. These survey examples had previously been applied to a sporting context, with the latter survey applied to major sporting events.

In order to maximise the efficiency of the surveys, ensuring that these were appropriate to the target demographic group (16-25-year olds), in terms of language and terminology, cognitive testing, a pre-pilot and pilot study were conducted.

A five pounds sterling high street voucher was awarded to the participants who completed the post-event questionnaire. This was used as an incentive, similarly to the incentive provided by Sport England in the Active Lives survey. Nevertheless, some participants of the post-event sample chose not to receive the voucher.

4.5 Cognitive Test, Pre-Pilot and Pilot Studies

A pilot study was designed and implemented in order to improve and consequently maximise the overall efficiency of the survey tools. Figure 4.8 below provides an overview of section 4.5, including a summary of the key factors for implementing a pilot study in research.

Purpose	Limitations	Administration
<ul style="list-style-type: none"> • Maximise effectiveness • Appropriate operation • Identify deficiencies • Reduce or prevent misunderstandings 	<ul style="list-style-type: none"> • Possibility of inaccurate predictions or assumptions • Success with pilot testing does not guarantee success with the full-scale test • Weak statistical foundation - based on small samples 	<ul style="list-style-type: none"> • Attendees of sporting events: Pre-Pilot - 2018 Cliffhanger Festival (Sheffield) and Pilot- 2018 Cycling Grand Prix (Sheffield) • Request feedback upon completion

Figure 4.8 – Mapping of section

4.5.1 Purpose and Limitations

Pilot studies, although not compulsory, are desirable when trying to carry out research involving one or more data collection tools (Veal, 2011). According to Bryman (2008), piloting instruments for future data collection not only enable the researcher to ensure that survey questions are effective, but also that the instrument selected in itself operates appropriately.

Van Teijlingen & Hundley (2001) state that a ‘pilot study’ refers to a small version of a full-scale study, also known as ‘feasibility study’ (Polit et al, 2001).

However, Baker (1994) and Creswell and Creswell (2018) argue that it may also be the pre-testing of specific research instruments. The pilot testing phase enables the researcher to identify deficiencies in the question wording and/or style, allowing for improvements before the main primary data collection stage (Gibson, 2012). These improvements would enable changes that would reduce or prevent problems with wording and misunderstandings by the participants.

According to Babbie (1990), independent of the outcome of the pilot study, it is important to employ the questionnaire in the same manner as it will be done in the main data collection. Therefore, a sporting event of relatively small magnitude was used to conduct further pilot testing. Veal (2011) illustrates the purposes of pilot surveys in table 4.7 below,

Table 4.8 – Adapted from Veal (2011, p314)

Pilot Survey Purposes
a. Test questionnaire wording
b. Test question sequencing
c. Test questionnaire layout
d. Code open-ended questions
e. Gain familiarity with respondents
f. Test fieldwork arrangements
g. Train and rest fieldworkers
h. Estimate response rate
i. Estimate interview etc. time
j. Test analysis procedures

As Veal (2011) suggests, it is key to test any newly developed surveys before official administration, in order to identify and solve any possible problems with the questions (Bryman, 2016). Such procedure will significantly reduce the probability of any misunderstandings occurring on behalf of the participants (van Teijlingen & Hundley, 2001). Thus, the use of pilot testing minimises the probability of a lack of understanding with the question construction, in addition to the design and formatting of the questionnaire when implemented. It is important as mentioned earlier, that the methods are optimised for the target demographic.

Nevertheless, according to van Teijlingen and Hundley (2001), there are some limitations to using pilot studies, including: *“the possibility of making inaccurate predictions or assumptions on the basis of pilot data”* and *“problems arising from contamination”* (2001, p2). They further highlight that conducting a successful pilot study does not guarantee the success of a full-scale test (van Teijlingen and Hundley, 2001). Moreover, pilot studies generally do not have a statistical foundation as they are normally based on relatively small samples (Lancaster, Dodd and Williamson, 2004).

4.5.2 Cognitive Testing, Pre-Pilot and Pilot Study Administered

4.5.2.1 Cognitive Testing

Prior to conducting a formal pilot study, the author and the supervisory team all agreed that it would be beneficial to conduct a small cognitive test, in order to gain some insight as to the difficulty and understanding of the wording, layout and questions being asked.

A couple of participants of different age groups, including 16-year-old and a 28-year-old, were given the initial questionnaire, and were asked to give some feedback on the points mentioned above. Inclusively, they were asked if there were any specific questions, they deemed inappropriate or that they would not wish to answer. Feedback was provided by the participants in verbal form.

Overall, cognitive testing feedback proved positive, with the key changes affecting the layout of the questionnaire.

4.5.2.2 Pre-Pilot

The researcher conducted a pre-pilot with the aim of further reducing the errors and maximising the overall efficiency of the questionnaire when administered at the final pilot stage. The pre-pilot consisted of administering questionnaires to the 2018 Cliffhanger Festival in Sheffield attendees (Appendix F – F1). A total of 50 questionnaires were distributed and collected, and some feedback was obtained.

The feedback indicated that the statements related to the 'process of change' and 'decisional balance' should be in relation to other people of similar age. Additionally, one participant voiced displeasure in relation to the self-esteem question. However, considering this was only one participant from a total of 50, the author and supervisory team agreed that the section should not be removed. Furthermore, whilst a portion of participants highlighted the length of the questionnaire as negative, they still successfully completed it. Participants were more willing to answer the questions as they had more time, since they were sitting down just taking in the event and/or consuming food and beverages.

4.5.2.3 Pilot

A pilot study was conducted at an informal stage of the PhD, in order to further examine the chosen data collection instruments and consequently identify any deficiencies of the survey questions (Peat et al, 2002). The 2018 Cycling Grand Prix in Sheffield was identified as an appropriate sporting event to conduct a pilot study, as it attracts a considerable number of participants (Appendix F – F2). The sporting event was hosted in the city centre and provided the researcher with the opportunity to administer the pilot study survey to attendees between breaks and during the actual races. Moreover, feedback was requested upon completion, relating to any unclear questions or vague terms, which will inform future planning.

Following the testing phase, a formal administration of the revised instruments was conducted at the 2018 Women's Hockey World Cup in London.

4.6 Sampling

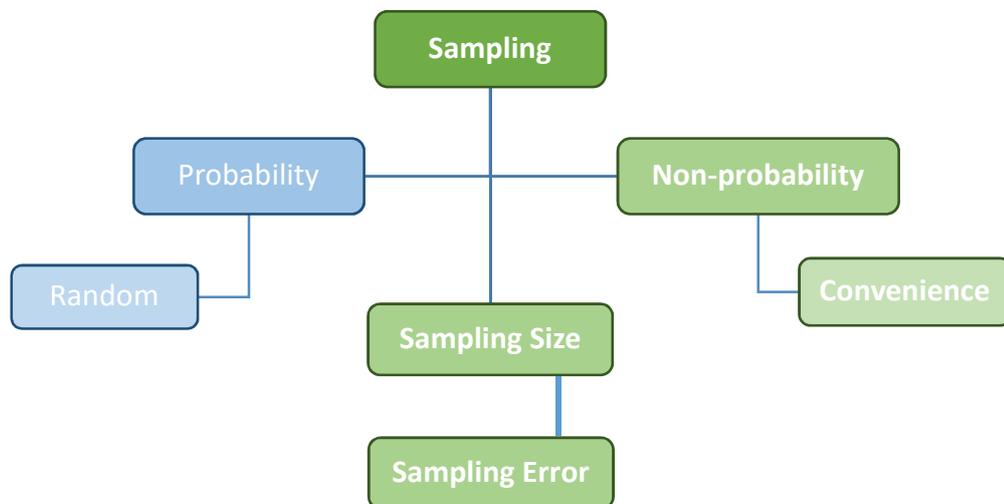


Figure 4.9 – Mapping of section

4.6.1 Introduction

When undertaking social science research, it is important to take the samples into consideration (Bryman, 2008). Since targeting the entire population is not realistic, a sample is taken from a population and the results generalised (Walliman, 2006). In other words, a sample is a subset of the targeted population, and the method of selection may be either probability or non-probability (Veal, 2011). Nevertheless, Walliman (2006) suggests the sample size needs to be considered, as it will impact on the researcher's ability to generalise the results to the population. The target population for this PhD were the attenders of major sporting events, specifically the 2018 London Women's Hockey World Cup. Teddlie & Yu (2007) propose there are four different sampling technique groups, namely: probability, purposive (non-probability), convenience and mixed methods.

4.6.2 Probability or Non-Probability

A probability sample is one that has *“been selected using random selection so that each unit in the population has a known chance of being selected”* (Bryman, 2008, p168). It is mainly used in primarily quantitative studies and involves selecting considerable large numbers of people from a population in a random manner, where the individual probability is determinable (Tashakkori & Teddlie, 2003a). The aim is to achieve representativeness, or the degree to which a sample accurately represents the wider population (Teddlie & Yu, 2007). On the other hand, a non-probability sample entails not being selected using a random selection method, implying that some participants of the population are more likely to be chosen than others (Bryman, 2008). This PhD comprises of a non-probability sample, as they do not have the same odds of being selected within the same population.

4.6.2.1 Random Sampling

Random sampling is the simplest form of probability sampling, where each participant has *“an equal probability of inclusion in the sample”* (Bryman, 2008, p171). Thus, there is a low risk of bias when using this particular form of sampling (Toner & Moran, 2014 in Nelson et al, 2014). Due to the fact that the participants of this PhD did not have an equal chance of participating, this sampling method was not adopted.

4.6.2.2 Convenience Sampling

Convenience sampling is a type of non-probability sampling which is available to the researcher due to its accessibility (Teddlie & Yu, 2007; Bryman, 2008). The sample is convenient in terms of accessibility, location and availability (Jones, 2015). A high probability of response rate would be expected as the target population is very accessible to the researcher. Lucas (1997) highlights this with a study conducted by a lecturer using a sample of university students. The students studied at the lecturer’s university, making them easily accessible and convenient to the researcher. Another example of this

particular sampling is given by Miller et al (1998), who sampled shoppers of a shopping centre. For the purpose of this PhD, the samples are convenient as the researcher has access to the sports events selected, thus accessible.

Even though convenience sampling is known for its positive response rates, the drop-off rate is also significantly higher for a survey/cross-sectional study (Hogan, Roy and Korkontzelou, 2004). As the participants will be surveyed during and post the event, it could mean that the same participant for one survey will not be willing to participate in the follow up. Therefore, it is important to ensure a significant sample is used for the data collection (Kumar, 2011).

4.6.2.3 Sampling Error

According to Walliman, “*no sample will be exactly representative of a population*” (2006, p80). In other words, if different samples are taken from the same population, using identical methods, then it is highly likely to be differences in the mean values of each sample (Walliman, 2006). Kumar (2011) states that, the difference between both the mean of the population and the sample is the sampling error. The smaller the sampling error the better, as this will decrease the bias in results (Marshall, 1996). However, Marshall (1996) argues that as the sampling error is inversely proportional to the square root of the sample size, then studying large samples is generally more beneficial. Nevertheless, Kaplan, Chambers and Glasgow (2014) highlight that despite the advantages of conducting big studies, by having a large sample size, the researcher can end up magnifying the bias associated with error resulting from study or sampling design.

4.6.2.4 Sample Size

Determining the adequate sample size required in order to achieve valid results may be a difficult task depending on what is being researched. Bryman (2008) suggests that determining the adequate sample size involves deciding on how much sampling error the research is willing to tolerate. According to Jones (2015), having a small sample size, will increase both the sampling error and the improbability of generalizability of the results, exponentially. He further

highlights that a larger sample group would bring more statistical power, enabling the researcher to obtain more solid results and conclusions. Bryman (2008) suggests that as the accepted sampling error increases, so does the need for the increase in sample size. However, Fowler (1993) believes that the previous criterion is not straightforward and argues that researchers do not posit the decision of their sample size on the single estimate of a variable. For example, survey research is mainly based on a host of different estimates, meaning there are different variables taken into consideration (Veal, 2011). Marshall (1996) suggests that the optimum sample size will depend on the study's phenomenon parameters. For the purposes of this PhD, the aim was to obtain a sample size similar to some of the latest studies (estimated 750+ participants per event). However, due to logistical circumstances the number was inferior to 750. Nevertheless, qualitative research typically encompasses a smaller sample size than quantitative studies (Toner & Moran, 2014). However, being mixed methods, the study aimed to reach the maximum available size group for each of the methods applied. Moreover, in order to generalise the findings to represent the wider population, the sample size should be of significant magnitude.

4.7 Ethics

Before undertaking any study, there are some ethical considerations that have to be considered before the researcher can go and collect the necessary data (Veal, 2011). Holloway (1997) emphasizes the importance of ethical considerations in line with the Nuremberg Code of 1949. According to Kumar (2011), the researcher has the duty to respect those participating, fellow researchers and the wider community. Diener and Crandall (1978) state there are four main areas to consider, including: where there is harm to the participants, whether there is a lack of informed consent from both parties, whether there is an invasion of privacy, and if deception is involved.

4.7.1 Participation Consent, Anonymity & Confidentiality

Babble (2010) distinguishes between anonymity and confidentiality; with anonymity being when the survey is anonymous and not even the researcher knows the name of the participants, whilst confidentiality is the non-disclosure of the participants' identity on a public level. Walliman (2006) states there are two perspectives for ethical issues, namely: ethical responsibilities, and values of honesty and personal integrity. Clough and Nutbrown (2012) highlight that these ethical values and standards are taken into account to ensure the maximisation of protection for both the researchers and participants; to ensure the data has been collected with informed consent; and to protect the wellbeing and identity of the participants (anonymity). (Dawson, 2009) further states that participation may not be a rewarding process for some. Schinke and Gilchrist (1993) suggest that the criteria for all informed-consent procedures include: *“participants must be competent to give consent; sufficient information must be provided to allow for a reasoned decision; and consent must be voluntary and uncoerced”* (1993, p83). Therefore, it is vital that this criterion is followed, to safeguard both the participant and the researcher.

The element of anonymity (McFee, 2010) is also a crucial factor in the number of responses a research may or may not obtain (Armour & MacDonald, 2012). This is certainly the case of some fragile topics such as *“player violence, or the use of drugs, or cheating in sport”* (Gratton & Jones, 2010, p128), which may ultimately inhibit the respondent. However, in the case of this PhD, the anonymity issues are different due to the nature of the area being investigated. In this particular case, the participant may not have wanted to disclose his/her household income or age and therefore by being anonymous, the probability of the participant responding to such socio-demographic questions will be significantly higher (Gratton & Jones, 2010).

For this PhD, the researcher submitted the SHU Ethics Approval form (SHUREC 1) to the supervisory team (see appendix O), and has also completed the newly designed online ethics approval by Sheffield Hallam

University, therefore following the procedures in place in order to be able to carry out the research.

Dawson (2009) reiterates that some people may be in a vulnerable position, due to their social status, age or position. Therefore, the research needs to take care when asking sensitive questions to the participants. The target population were adult attenders (minimum age of 16) of major sports events in the United Kingdom, specifically of the 2018 Women's Hockey World Cup in London. The participants were informed that they would remain anonymous, thus enabling confidentiality to be honoured in the discussion and analysis of data. Consequently, the research was conducted in an overt manner, ensuring honesty and openness from start to finish (Dawson, 2009).

The objectives of the research and the participants' roles are to be clearly explained to all involved. As Stern and Lomax state "*standards...for basic science research regarding the ethical design and conduct of research on human subjects are set out in several international codes...*" (1997, p288). They add that "*for all research involving human experimentation, informed consent must be obtained from subjects*" (Stern & Lomax, 1997, p291). Put into simpler terms, "*informed consent simply means that the participant has given consent to take part in an investigation about which they have been fully informed*" (Williams & James, 2001, p9). This applies to this study, as prior to the handing out of the respective questionnaires; the participants were fully and fully informed of what the project entails and its purpose.

Similar to any research, this study was regulated in order to fulfil all the cultural codes and to ensure that all of the correct and necessary procedures were followed.

4.8 Triangulation

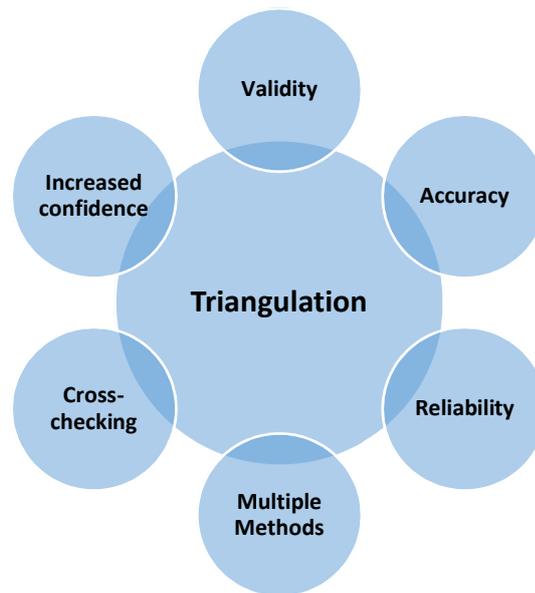


Figure 4.10 – Mapping of section

4.8.1 Introduction

When using multiple methods in research, it is important to look at the best way of combining these in order to maximise the validity and accuracy of the data (Creswell & Miller, 2000; Sparkes, 2015). The technique known as Triangulation will be analysed and discussed, highlighting the benefits and disadvantages of adopting such an approach, including its application to this PhD study.

4.8.2 Definition, Advantages and Disadvantages

Triangulation has been used in different contexts (Denzin, 1997), and Bryman (2008) defines it as *“the use of more than one method or source of data in the study of social phenomenon so that findings may be cross-checked”* (2008, p700). Burns (2000) further suggests that it is the adoption of multiple approaches to collecting data, as a form of enhancing the reliability and validity of the findings. Williamson (2005) refers to Triangulation as the use of multiple methodologies, sources of data, theoretical frameworks and observers/researchers. Mason (2002) refers to it as a way to validate one

source and method with another or enhance the quality of the data gathered. Carter et al (2014) support the discussion by stating that limiting the data collection to a single or couple of methods may potentially exclude eligible participants, and consequently lessen the breadth of results. Dolowitz et al (2008) argue that the process may be used when researching the relationship between two elements, which in this case are the 'Inspiration Effect' of attending major sports events and, attitudinal and behaviour changes. Nevertheless, Cohen et al (2001) point out that triangulation is an underused technique.

The aim of Triangulation is to enable the cross-checking of both qualitative and quantitative findings (Deacon et al, 1998). The rationale for using it is closely linked to the fact that, applying only a single method for the data collection will never adequately prove or disprove a certain phenomenon (Bryman, 2008). According to Patton (1999), there are four types of Triangulation, namely: methods triangulation, triangulation of sources, analyst triangulation and theory/perspective triangulation. The first type refers to inspecting the consistency of the findings generated through the usage of different data collection methods. The second denotes the examination of the consistency of the different sources gathered within the same method. The third form utilises multiple analysts to review the data, whilst the last type utilises multiple theoretical perspectives to analyse the data collected.

A prime objective is to increase confidence in the research data through the usage of two or more independent measures, consequently confirming a hypothesis (Bryman, 2008). Hence, it is acknowledged by Patton (1999) and Tashakkori (2003) that the usage of multiple methods will provide a more comprehensive approach and facilitate a more in-depth understanding of such phenomenon. Further advantages include creating innovative ways of understanding phenomenon, revealing unique findings and challenging or integrating theories (Heale & Forbes, 2013).

Thurmond (2001) suggests that the benefits previously mentioned are a consequence of the diversity and quantity of data that may be used for

analysis. However, there are disadvantages such as the time costs, as it requires more planning, organisation and resources to collect more data, which are not always at the researchers' disposal (Mansell et al, 2004). Moreover, there is a possibility of researcher bias (Thurmond, 2001). A further critique of Triangulation is that it implies that there is knowable social reality (Mason, 2002), which has been deemed as philosophically problematic, even though its augmenting capabilities of the findings is generally recognised (Silverman, 2000; Mason, 2002).

4.8.3 Application to PhD Study

The study utilised a combination of different data collection methods as previously outlined in section 4.4. Multiple sources were used, including primary data collected from major sport event attenders and stakeholders. As a result of this mixed methods approach (qualitative and quantitative), triangulation was integrated in both research strategies (Bryman, 2008). Thus, it should be viewed as an essential part of any mixed methods research, as it enables a thorough validation of the different findings (Burns, 2000; Silverman, 2000; Mason, 2002).

4.9 Data Analysis – Qualitative & Quantitative

There are different strategies which may be adopted in order to successfully analyse qualitative data, including: analytic induction, and grounded theory. According to Bryman, analytic induction is an,

“Approach to the analysis of data in which the researcher seeks universal explanations of phenomena by pursuing the collection of data until no cases that are inconsistent with a hypothetical explanation (deviant or negative cases) of phenomena are found” (2008, p539).

The above strategy implies that if data gathered is inconsistent with the hypothesis, the researcher either redefines the hypothesis or reformulates it and proceeds with further data collection (Bryman, 2008). Strauss and Corbin

(1998) state that a characteristic of this particular method is that, the data collection, analysis and established theory, are closely connected.

On the other hand, grounded theory is defined as the theory that is derived from the data which is systematically collected and analysed (Bryman, 2008). In other words, the main features of the grounded theory are the development of theory from data and its approach is iterative or recursive, meaning the data collection and analysis occur in tandem (Atkinson, 2012). This is the opposite approach to what has been adopted for this PhD study.

In order to aid with the analysis of primary data, there are several tools which are viewed as appropriate. These tools include excel, statistical package for the social sciences (SPSS) and Nvivo (Taylor, 2014). It is acknowledged that there are many different software packages available, however after careful consideration; the aforementioned statistical packages have been recognised as the most appropriate.

4.9.1 Qualitative Analysis

Thorne (2000) suggests in qualitative research, data analysis is the most complex phase, and generally one that receives the least thought discussion in the literature. Thorne (2000), Malterud (2001) and Braun and Clarke (2006) argue that researchers need to be clear about what they are doing, why they are doing it, and be clear as to the analysis methods. If this is not achieved, then evaluating the trustworthiness of the research process is difficult (Nowell et al, 2017).

In order to efficiently analyse qualitative data, this needs to be in an appropriate format, typically a transcript. According to Barbour (2014), qualitative researchers fall into the assumption that the transcript cannot lie, especially if it is a verbatim one. This results in reification of both data and transcripts. However, the transcript itself is a product and not the analysis of the data. As stated by Poland and Pedersen (1998), transcription is a transformational process which takes a live conversation and changes it into a textual representation. However, they also argue that the transcripts fail to

acknowledge body language (ie, gestures, facial expressions, tone and positioning) (Poland & Pedersen, 1998). Hence, it is important to acknowledge that meaning may sometimes be misconstrued in transcriptions. Transcripts were created as a result of the interviews conducted to stakeholders (members of the event team) of the 2018 Women's World Cup. These were written verbatim and, in a way to accurately reflect the information being conveyed. Thus, the transcripts were formatted in a manner to maximise the data analysis.

Veal (2011) suggests that computer-aided qualitative data analysis software (CAQDAS) packages should be used in order to successfully analyse numerous lengthy documents. A reason behind this rationale is the time-consuming process of coding and thematic analysis (Bryman, 2008). However, Stanley and Temple (1995) highlight that most of the coding and retrieval features may be used and found using Word for Windows. The main advantage here is the reduction of the time needed to get acquainted with new mechanics of CAQDAS operations. Furthermore, by having a system in place to analyse the relevant complex data, it is argued that the result is *"better quality of output than may have been possible with manual methods"* (Veal, 2011, p400). Nevertheless, Weaver and Atkinson (1994) suggest that the CAQDAS both reinforces and exaggerates the tendency for code-and-retrieve process which is fundamental in most qualitative data approaches and therefore leads to fragmentation of the textual materials. However, Bryman (2008) argues that CAQDAS enhances the transparency of the process of qualitative data analysis. Tools such as Microsoft Word Processing are regarded as an aid to organising and locating pieces of information from transcripts; however, Nvivo is recognised as a more efficient and comprehensive resource, developed specifically for researchers (Zamawe, 2015). Nevertheless, considering the small number of interviews conducted on the stakeholders of the major sporting event (due to saturation of the data), the qualitative evidence was not analysed using a software tool such as Nvivo.

Qualitative data was collected from the key stakeholders of the 2018 Women’s Hockey World Cup in order to examine what leveraging strategies were implemented (if any), and consequently provide insights as to recommended potential strategies. Subsequently, it was analysed using ‘Thematic Analysis’, which according to Braun and Clarke (2006) is a *“foundational method for qualitative analysis, (a method) essentially independent of theory and epistemology, (that) can be applied across a range of theoretical and epistemological approaches”* (p78). Nevertheless, they argue that this type of qualitative analysis is poorly defined and rarely acknowledged, however it is still a widely applied analytic method (Braun & Clarke, 2006). Thematic analysis involved coding participants’ open-ended interview into closed categories, consequently summarizing the data (Wilkinson, 2004). Key themes and sub themes were identified from the interview transcripts, particularly in relation to leveraging.

The advantages of thematic analysis include flexibility, accessibility to researchers with limited or no experience of qualitative research, usefulness to summarize key features of a large body of data, and relatively easy and quick method to learn and execute. Finally, ‘Triangulation’ (section 4.8) was applied in order to make the connections between the qualitative and quantitative data.

Table 4.9 below provides an overview of the various phases and relevant processes of the thematic analysis which were applied to the analysis of the stakeholder evidence.

Table 4.9 – Thematic analysis process

Number	Phase	Process
1	Familiarisation with the data	Transcribing the data, reading and re-reading the data, highlighting initial ideas.
2	Generating initial codes	Coding of interesting features of the data in a systematic manner across the entire data set.

3	Searching for themes	Collating codes into potential themes, grouping all the data relevant to each potential theme
4	Reviewing themes	Check if the themes work in relation to the coded extracts and the entire data set, generating a thematic map of the analysis (see section 4.9.2 below).
5	Defining and naming themes	Ongoing analysis to refine the details of each theme, the overall story the analysis tells, generating clear definitions and names for each theme.
6	Producing the report	Providing a detailed report of the main themes and provide in-depth insights to their meaning in relation to the data.

4.9.2 Mapping of the Thematic Analysis

A map of the thematic analysis was developed in order to provide an overview of the main themes and their relevant sub-topics (see figure 4.11). This offers the opportunity to view the extent of the 2018 Women’s Hockey World Cup, regarding the focus of the event stakeholders.

4.9.2 Mapping of the Thematic Analysis



Figure 4.11 – Mind map of the thematic analysis

Table 5.31 below shows the main recurring themes from the interview transcripts which have been coded.

Table 4.10 - Thematic analysis table (Key themes of the stakeholders' interviews)

Key Themes										
Qualitative Method	(1) Fan Central	(2) Your World Cup Campaign	(3) Umpiring	(4) Hockey Makers	(5) Hockey Activations	(6) Clubhouse	(7) Arena	(8) Sponsorship	(9) Vitality Mile	(10) Event Objectives
Interviews	23	7	21	6	3	11	3	8	1	14
Emails	1	1	1	1	0	1	0	0	0	0

The most recurring themes were numbers (1) and (3), which relate to the Fan Central and Umpiring. Fan Central was considered by both England Hockey and UK Sport event members as the key focus of their leveraging strategies. Theme number (5) was implemented at Fan Central and theme (2) was implemented during the three phases of the event. The Clubhouse (theme 6) which was based at the Arena was mentioned 11 times, as it was used as the hub for several workshops linked to coaching and umpiring. It is clear that 'Fan Central' was the main source of the leveraging strategies, which included themes (2), (3), (4), (5) and (10). An in-depth thematic analysis is presented in section 5.5.

In relation to the documents provided by the stakeholders and the verification of the event venue, the researcher conducted unstructured observations when not conducting quantitative data collection. This enabled the researcher to collect valuable data regarding what was happening at the different sites across the event, the physical characteristics and environment. The observations were applied to both the qualitative and quantitative data analysis (Kawulich, 2012).

4.9.4 Quantitative Analysis

As previously mentioned, there are a number of computer software packages that may be used to analyse quantitative data, including: spreadsheets and statistical packages (Veal, 2011). According to Veal, spreadsheets are *"the most widespread computer application used for general data analysis and Microsoft Excel is used to demonstrate certain analysis procedures"* (2011, p417). Statistical packages are used in a research context to analyse statistical data, with the Statistical Package for the Social Sciences (SPSS) being the most widely used (Bryman, 2008; Smith, 2010). There are other packages that may also be used such as Minitab, Biomedical Data analysis (BMD), Statistical Analysis System (SAS) and Turbostats (Veal, 2011).

The statistical package adopted and implemented in the analysis of the quantitative data collected at the 2018 Women's Hockey World Cup was the Statistical Package for the Social Sciences (SPSS). SPSS has been widely used in social science research, including major sport events research. This

maximises the probability of different connections and comparisons being made to a significant degree of accuracy (Tashakkori & Teddlie, 2003).

Moreover, SPSS contributes to the shaping and understanding of data, and in the testing of theoretical assumptions concerning the same data set (McLafferty & Farley, 2006; Veal, 2011, Zamawe, 2015). Nevertheless, it is important that the researcher has a firm grasp of how to best utilise the software, in order to maximise the research outputs.

It is argued by Barchard and Pace (2011) that a certain degree of human error input may result when utilising statistical software. In order to maximise the reduction of this error, the researcher has attended workshops and modules at Sheffield Hallam University. This will ensure that the researcher is qualified and fully aware of the software’s capabilities and therefore use it to its full potential with a reduction in human error.

Walliman argues that, the difference between both quantitative and qualitative analysis is that with the former “*you need to have completed your data collection before you can start analysis, while with the latter, analysis is often carried out concurrently with data collection*” (2006, p129).

4.9.5 SPSS Tests

The nature of the quantitative data collected, and the variables used in the testing of the research questions resulted in a selection of the appropriate SPSS tests. These tests are summarised in tables 4.11, 4.12 and 4.13 below, broadly detail why they were applied in the analysis of the data collected from the 2018 Women’s Hockey World Cup, both during and post-event.

Table 4.11 – Summary of the purpose of each SPSS test applied

SPSS Test	Number of Variables / Conditions	Design	Parametric / Non-Parametric	Purpose	Detail	Variables Tested
Chi-Squared		Association	Non-Parametric	Compare frequency counts (in categories)	Describes the magnitude of discrepancy between the observed data and the data	Sport and Physical Activity Participation (including type and reasons) Recreation participation

					expected to be obtained with a specific hypothesis.	Inspiration effect Intention Theory of Planned Behaviour Facilitating and Mitigation factors Processes of Change & Decisional Balance Leveraging
Pearson	Two variables	Correlational	Parametric	Correlate variables	A measure of how much the scored of the two variables vary together and then contrasts this with how much they vary on their own.	Inspiration Effect

Table 4.12 – Summary of the purpose of each SPSS test applied (Continued 1)

SPSS Test	Number of Variables / Conditions	Design	Parametric / Non-Parametric	Purpose	Detail	Variables Tested
Independent samples t-test	One variable: two conditions	Independent	Parametric	Look for differences between conditions	Undertaken when samples are unrelated, with different participants in each sample, such as during and post-event.	Theory of Planned Behaviour
Matched pairs t-test		Repeated measures	Parametric		Undertaken when samples are related, usually with the same	Sport and Physical Activity Participation (including

					participants in each sample.	type and reasons)
						Recreation Participation
						Intention
						Theory of Planned Behaviour
						Processes of Change & Decisional Balance
Wilcoxon			Non-Parametric		The non-parametric equivalent of the related t-test and is used when we do not believe that the assumptions of the t-test are met.	Processes of Change & Decisional Balance

Table 4.13 – Summary of the purpose of each SPSS test applied (Continued 2)

SPSS Test	Number of Variables / Conditions	Design	Parametric / Non-Parametric	Purpose	Detail	Variables Tested
One factor independent ANOVA	One variable: two conditions	Independent measures	Parametric	Look for differences between conditions	Analyses the variability in the scores and links that variability to various causes such as the effect of the independent variable and also to random chance.	Sport and Physical Activity Participation (including type and reasons)
						Recreation participation
						Inspiration effect
						Intention
						Theory of Planned Behaviour

						Facilitating and Mitigating factors
						Processes of Change & Decisional Balance
						Leveraging

In ANOVA, post hoc tests are designed for situations in which the researcher has already obtained a significant F-test with a factor that consists of three or more means. Additional exploration of the differences among means is needed to provide specific information on which means are significantly different from each other.

4.10 Overview of Research Strategies

Tables 4.12 and 4.13 provide an overview of the different research strategies and the corresponding theoretical stance, design and methods. The areas in black illustrate the approach to be adopted in this PhD. As may be seen, the research strategy adopted by the researcher is not limited to a single stance, methodology, design and methods. As justified earlier in the chapter, a combination of these is deemed to be the most appropriate approach for this PhD, and as a result has maximised the amount of both qualitative and quantitative data. Thus, enabling a more accurate and precise measurement of the attenders' attitudes and behaviours, and their respective changes.

Table 4.14 – Summary of Research Strategies with corresponding theoretical position, design and methods (adapted from Smith, 2010)

<i>Research Strategy</i>	<i>Ontological Position</i>	<i>Epistemological Position</i>	<i>Methodological Position</i>	<i>Research Design</i>	<i>Research Method</i>
Systematic Literature Review	Objectivist/ Constructivist	Positivist/ Interpretivist	Quantitative and/or Qualitative	Cross-sectional or Longitudinal	- Literature/content analysis
Experimental	Realist/ Objectivist	Positivist	Quantitative	Experimental (True, quasi-, or natural)	- Observation - Questionnaire - Clinical/non-clinical measurement
Correlational	Realist/ Objectivist	Positivist	Quantitative	Cross-sectional	- Observation - Questionnaire - Clinical/non-clinical measurement
Survey	Realist/ Objectivist/ Constructivist	Positivist/ Post- positivist Interpretivist/ Critical Realist	Quantitative and/or Qualitative	Case, Cross- sectional/Survey, Comparative or Longitudinal	- Observational surveys - Questionnaires - Focus groups - Interviews - Literature/Content analysis

Table 4.15 – Summary of Research Strategies with corresponding theoretical position, design and methods (adapted from Smith, 2010) (Continued)

<i>Research Strategy</i>	<i>Ontological Position</i>	<i>Epistemological Position</i>	<i>Methodological Position</i>	<i>Research Design</i>	<i>Research Method</i>
Observational	Constructivist	Interpretivist	Qualitative (but may include aspects of the quantitative approach)	Case, Cross-sectional, Comparative or Longitudinal	- Observations
Case Study	Constructivist	Interpretivist	Qualitative (but may include aspects of the quantitative approach)	Cross-sectional, Comparative or Longitudinal	- Observations - Questionnaires - Focus groups - Interviews - Content analysis
Ethnographic	Constructivist	Interpretivist	Qualitative (but may include aspects of the quantitative approach)	Case, Cross-sectional, Comparative or Longitudinal	- Observation - Questionnaires - Focus groups - Interviews - Content analysis

4.11 Limitations

A variety of limitations were encountered during the implementation of the data collection methods. These limitations were in relation to the venues, questionnaires, timings, logistics with target demographic, and post-event response rates.

The Lee Valley Stadium, venue which hosted the 2018 Women's Hockey World Cup presented the author with some limitations. During high attendance games, the stands which seated the largest number of attenders, did not logistically facilitate the distribution of questionnaires. Additionally, the questionnaires were time consuming to complete, which in the pilot study did not prove to be an issue due to the time available for the attenders to complete the questionnaires at the Cycling Grand Prix event. However, the windows of opportunity at the Hockey World Cup were significantly shorter, meaning only a limited number of questionnaires were distributed in a single 'wave' (the period representing breaks or time between matches). Each match had three breaks including halftime, which allowed for a total of 30 minutes of surveying (3x10min). Additionally, pre matches were used, in addition to the time between matches (typically two matches per day). Hence, the timeframe to hand out questionnaires was limited, and an effective strategy was necessary. As a result, the author opted to change strategy to maximise the total number of final questionnaires, consequently increasing the number of used clipboards (from five to nine). Whilst this limitation may appear to have been reduced, it still presented a restriction with the overall number of collected questionnaires (n=407). Ultimately, if the strategy was in place soon, and the questionnaire was shorter in length, the 2018 Women's Hockey World Cup would most likely have generated in the region of 450-600 questionnaires.

On the other hand, the target demographic were attenders aged between 16 and 25, so the author's initial focus was on distributing the questionnaires to attenders who appeared to be between those ages. Consequently, time was used targeting this specific demographic, instead of solely distributing the questionnaires to sections of the stands in a progressive manner.

Additionally, the author experienced a limitation in relation to the post-event survey response rate. An estimated 37 percent of the total post-event sample who agreed to participate in future research responded to the email questionnaire. This highlights the sampling issues in using online surveys by Bryman (2016), as not everyone has the technical ability to handle questionnaires online in either web formats or email.

4.12 Event Inspired Behaviour Change Model – EIBCM

Based on a critical analysis of the current literature (Chapter Two) and an in-depth analysis of the various theories and models of behaviour and behaviour change (Chapter Three), the Event Inspired Behaviour Change Model (EIBCM) has been refined, using a combination of the TTM and TPB (Prochaska & Velicer, 1997; Ramchandani et al, 2017) and the Theory of Planned Behaviour (TPB) (Ajzen, 1991), which have been identified in Chapter Three as most fit for purpose (figure 4.11). The aim of the EIBCM is to measure actual attitudinal and behavioural change of sporting event attenders through an effective combination of the TTM and the TPB. Again, as highlighted in the previous chapter (Chapter Three), the current models are limited to identification of the inspiration effect, so there is the need to develop a model proficient at measuring this inspiration effect. The rationale behind the development of the EIBC Model is aligned with both Forward (2014) and Potwarka (2015). Forward (2014) applied a combination of the TPB and TTM to the exploration of people's willingness to bike, whilst Potwarka (2015) used the TPB to understand motivational factors behind individuals' intention to become more active in relation to the Vancouver 2010 Olympics. The EIBCM has thus been applied to the measurement of attitudinal and behavioural change of the 2018 Women's Hockey World Cup attenders.

The stages of change which comprise of Pre-Contemplation, Contemplation, Preparation, Action and Maintenance, explain the different movements (both positive and negative) that may occur in terms of attitude and behaviour. As established by Potwarka et al (2015), there are external factors which contribute to an individual's change in attitude and behaviour. The TPB considers both internal (personal) and external factors, which may play a role towards the intention outcome. Progression and regression, illustrated by the

green and red lines respectively, is determined by multiple elements which may influence and impact an individual's attitude and behaviour change in relation to sport and physical activity (see figure 4.11 below). The EIBCM considers the factors that may affect the participation in sport and physical activity. In order to get a true measurement of behaviour change, it is important to consider the reasons for any decreases in participation. These factors include beliefs and attitudes of the participants, which may psychologically impact on the likelihood of taking part in sport and/or physical activity. The EIBCM is a dynamic and applicable to illustrating the effects of attending a major sporting event and the impact of background and personal attributes and traits, along with external influential factors.

Due to the limitations of this PhD in relation to the post-event sample size, the model has been transformed (Appendix L). This allows data to be aggregated into 'Inactive' and 'Active', thus reducing the 'Preparation' stage of change which has no attenders, and as a result provide a clearer overview of the sample and inspiration effect.

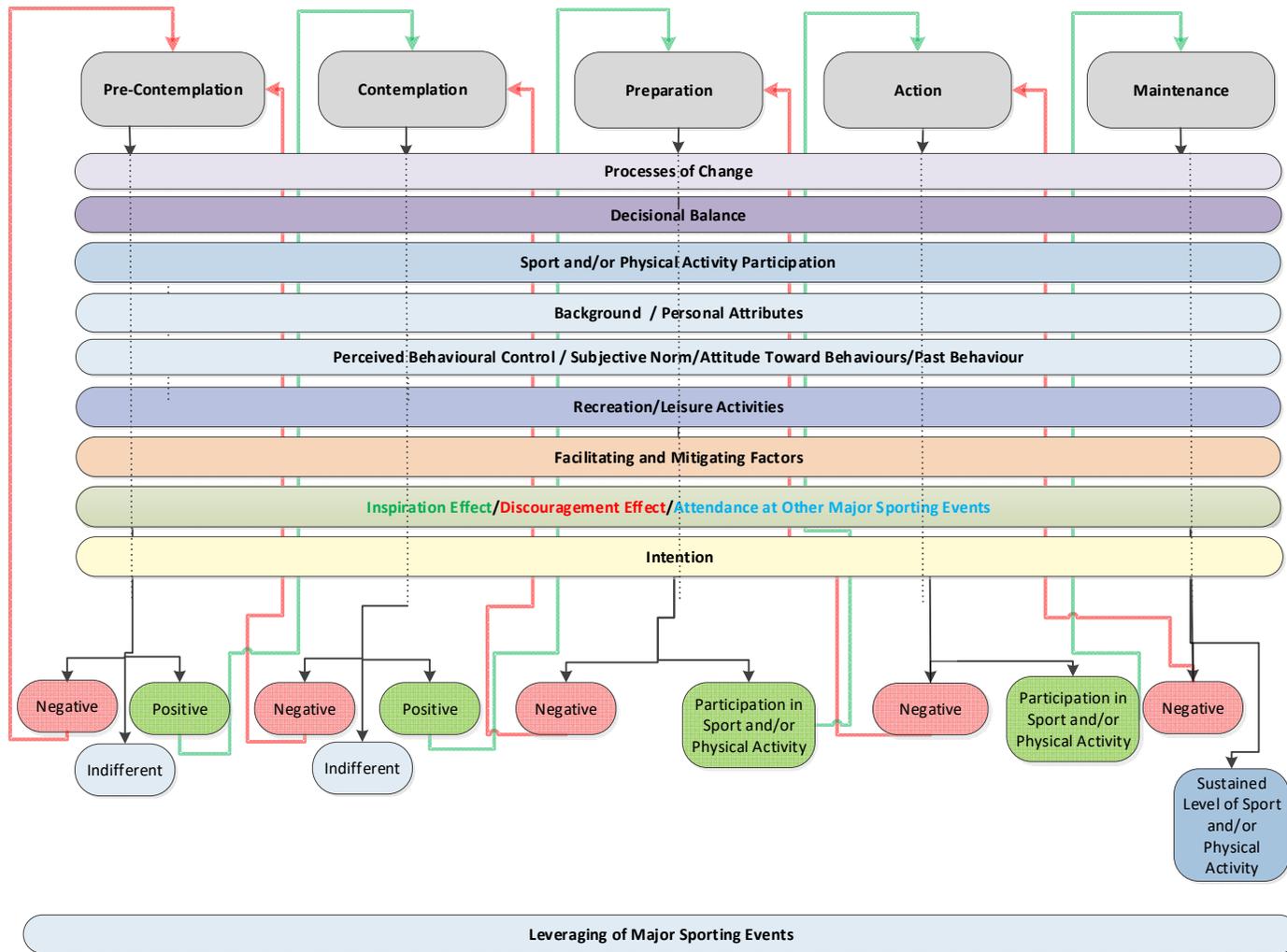


Figure 4.12 – Event Inspired Behaviour Change Model

4.13 Conclusion

In summary, the chapter provided an outline of the philosophical underpinnings of the PhD study, examining issues of both ontology and epistemology. The decision of a Realist ontology followed by a combination of an Objectivist and Constructionist epistemology was justified by the researcher's pledge to the structured modes of inquiry and testing of hypothesis. This PhD's theoretical perspective follows a combination of critical realism, interpretivism and behaviourism.

The different types of research designs were analysed, and the cross-sectional/survey design has been identified as the most appropriate for this PhD study (Bryman, 2008, Jones, 2015). Following this, it was seen that a mixed methods approach is the most effective way to collect the necessary data for the maximisation of the inferences and generalisation, and reducing the weaknesses (Smith, 2010). Reflexivity was highlighted as an important mechanism to be taken into consideration when conducting research (Levy, 2003; Ryan, 2005; Charmaz, 2006).

It was established that research quality is vital when carrying out any kind of research (University of Adelaide, 2014). Embedded within this are reliability, validity, causation and credibility (Flowers, 2009). The type of sources used in the different studies, along with their measurements and how they obtained their data is an important factor. Additionally, the sources used in this PhD and the methods adopted are essential when determining the level of research quality (Bryman, 2008). In terms of causation, choosing an appropriate research design is important in order to reduce the limited control over some variables being used (Alreck & Settle, 1995). The 'inspiration effect' has shown to be challenging in its cause and effect relationship with major sport events attendance and, sport and physical activity participation (Weed et al, 2012; Ramchandani et al, 2015; Ramchandani et al, 2016).

Different research methods were identified, and it was established that questionnaires and interviews were the most appropriate for the collection of the empirical evidence. Nevertheless, observations by the researcher during the fieldwork stage will be used as supplementary data. The previous tools present three types of measures, which aid the evaluation of sporting events

impacts. A thematic analysis was discussed and evaluated, and consequently was carried out in order to analyse the qualitative data (interviews). Furthermore, the access and suitability of the 2018 Women's Hockey World Cup was discussed.

The purpose and limitations of a pilot study were analysed, and its administration plans explained. Advantages such as maximisation of data collection tools was identified (Bryman, 2008), however it was also recognised that pilot studies have weaknesses such as the potential ability to make inaccurate predictions or assumptions (van Teijlingen & Hundley, 2001). Additionally, it does not guarantee the success of a full-scale test, and it does not have a strong statistical foundation (Lancaster, Dodd and Williamson, 2004).

Moreover, it was documented that this PhD study was carried out using a non-probability convenience sampling, as the sample was easily accessed by the researcher (Bryman, 2008). Furthermore, aspects such as sampling error and size were taken into consideration. The larger the sample size the better it is, and the smaller the sample error (Marshall, 1996).

Ethics is a crucial factor when dealing with any type of research and hence, should be taken into consideration (Veal, 2011). Transparency is essential, and therefore participation consent, anonymity and confidentiality have all been taken into account in this PhD (Babble, 2010; Clough & Nutbrown, 2012). Participation information sheets were handed out to the participants along with the questionnaires (see Appendix G – G1). In addition, the SHUREC 1 form was submitted to Sheffield Hallam University's Ethics Committee and approved (see Appendix O).

It was established that triangulation is a useful technique in research, which purpose is to maximise the validity (Creswell & Miller, 2000; Burns, 2000) and confidence of the data collected (Bryman, 2008). Although there are benefits, triangulation does show some disadvantages such as timely implications (Mansell et al, 2004). Nevertheless, it was acknowledged that triangulation is a beneficial technique for this study, which was implemented, as more than one method was applied to the collection of data (Bryman, 2008).

An in-depth analysis of how the data was examined was conducted, and it was acknowledged that there are different types of statistical analysis software that could have been adopted, with SPSS being the chosen statistical package (Bryman, 2008; Veal, 2011, Zamawe, 2015). These have both strengths (Tashakkori & Teddlie, 2003) and weaknesses (Barchard & Pace, 2011), however when used effectively, they may provide useful and valuable findings when coming to overall conclusions.

To conclude, an overview of the different research strategies was illustrated, and the adopted design highlighted. Potential limitations were also acknowledged, such as drop-out rates, and the EIBC model illustrated, emphasizing the purpose and contribution of this PhD.

Chapter Five – Results and Discussion

5.0 Introduction

The aim of this chapter is to present and analyse data collected at and after the 2018 Women’s Hockey World Cup which was hosted in London from the 21st of July to 5th of August 2018. The chapter will present the results and analysis for the during, post-event and matched pairs of the major sporting event (specifically young attenders) around the themes of inspiration effect, processes of change, stages of change, attitude and behaviour changes, and facilitating and mitigating factors. The leveraging data will be analysed following the previous analysis, encompassing both quantitative and qualitative data.

5.1 Chapter Overview with Data Link

Figure 5.1 below provides an overview of the connection between the data and the EIBC Model. The during and post-event questionnaires were designed using the EIBCM.

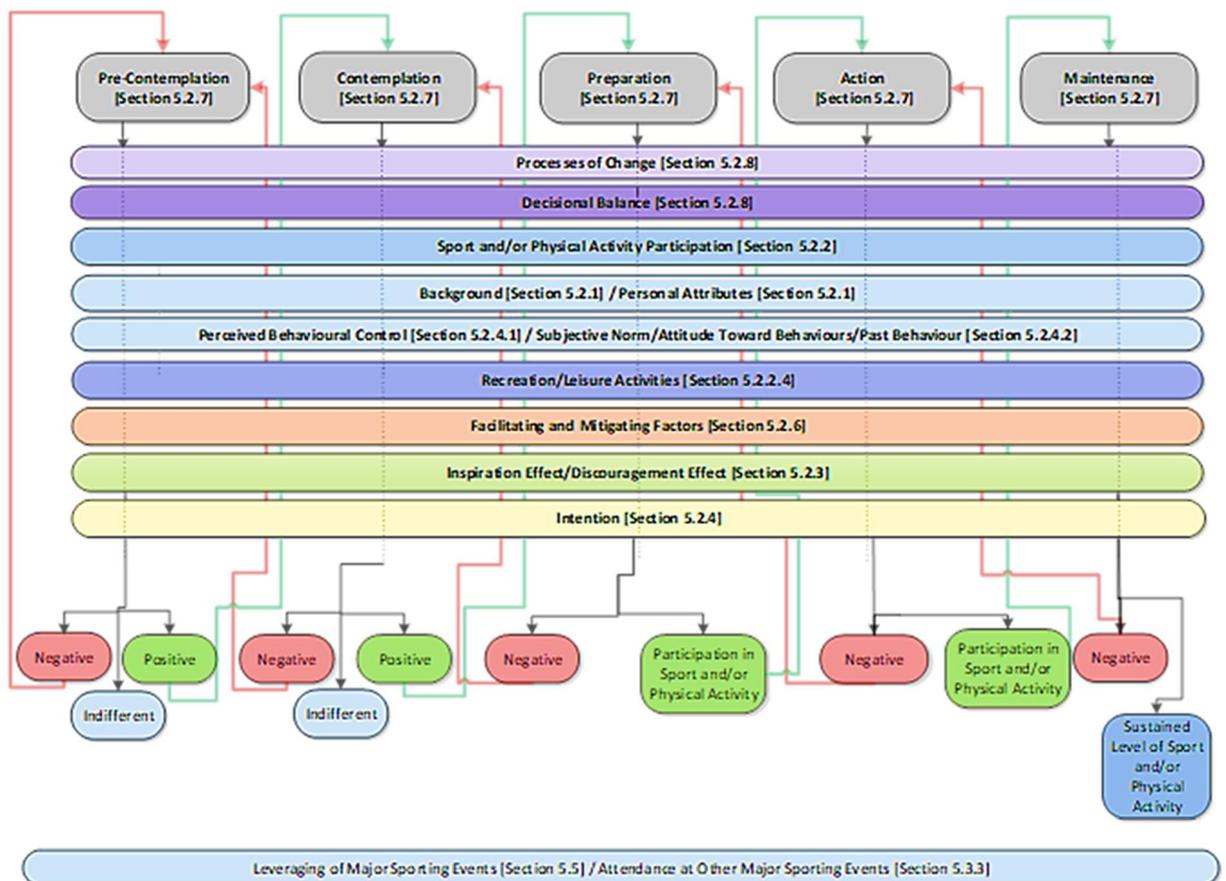


Figure 5.1 – Overview of the link between the model and data

5.2 During-Event

5.2.1 Demographic – Sample Profile

As part of the during-event survey the attenders were asked a series of demographic related questions, including age, gender, employment/education status, number of children, ethnic origin and residence (location). An overview of the sample profile is seen in table 5.1 below.

Table 5.1 – Sample (including employment/education status & number of children) by age groups

	Age Groups				
Sample	16-25	26-35	36-45	46-55	56+
During-event	30.5%	29.98%	12.3%	16.95%	10.3%
Employment/Education Status					
Working full-time (30+ hours per week)	41.1%	88.5%	90%	84.1%	38.1%
Full-time student (college/university)	43.6%	4.1%	0.0%	0.0%	0.0%
Working part-time (less than 30 hours per week)	4.0%	3.3%	10.0%	10.1%	19.0%
Retired – company/personal pension	0.0%	0.0%	0.0%	0.0%	35.7%
Number of Children					
Yes	0.81%	12.30%	50.0%	86.96%	92.86%
No	99.19%	87.70%	50.0%	13.04%	7.14%

The sample of UK Sport and SIRC’s (2011) research across three live major sporting events (Women’s Hockey Champions Trophy, Triathlon World Championships Series and Women’s Rugby World Cup), consisted mainly of attenders between the ages of 16 and 34 (56%). 60.5 percent of attenders of the 2018 Women’s Hockey World Cup sample were relatively young (aged 16-35), did not have a long-standing illness (89.4 percent) and described their ethnic origin as “white” (92.6 percent). These demographic groups generally

have participation rates which are above the national average, as stated by Sport England's Active Lives (2018) survey.

Wicker and Sotiriadou's (2013) research suggest that people with a higher education status are more likely to be positively impacted by the hosting of a major sport event, and consequently, may be more likely to increase their sport and physical activity participation and engagement levels. However, they also found that high weekly workloads may mitigate a potential trickle-down effect. According to the during-event sample data, the majority of the attenders were in full-time employment (table 5.1). However, attenders between the ages of 16-25 were either working full-time (41.1 percent) or in full-time education (school/college/university) (43.6 percent). As expected, those in the 56+ age group were mainly in full-time/part-time employment or retired (73.8 percent). Wicker, Breuer and Pawlowski (2009) and Minnaert (2012) found that higher levels of education are generally positively correlated with sport participation. Nevertheless, this only provides an indication regarding the attenders of the sample who are in full-time education, as attenders who reported a different status were not asked their latest level of education. As the Theory of Planned Behaviour (TPB) suggests, there are social background factors which impact on the behavioural, normative and control beliefs (Ajzen and Fishbein, 2005). These ultimately influence 'intention' and consequently 'behaviour'.

Furthermore, Verhoef, Love and Rose (1993) found that having children negatively affects sport and physical activity participation. Thus, having children can mitigate possible trickle-down effects (Wicker and Sotiriadou, 2013). As seen in table 5.1 above, an overwhelming percentage of attenders in the sample aged 46 and over, have at least one child, whereas attenders in the sample aged 16-25 were the lowest demographic (0.81%) in this respect. Furthermore, evidence shows that 28 percent of attenders in the sample were active and have children, as opposed to 56.5 percent who are active but with no children.

5.2.2 Sport, Physical Activity and Recreation Participation

5.2.2.1 Sport and Physical Activity Participation: Active and Non-Active

In order to analyse the sport and physical activity participation levels between the different age groups, it is important to have an overview of the active and non-active attenders in the event-based sample (table 5.2).

Table 5.2 – During-Event Sample Sport and Physical Activity Participation by age groups (n=407)

During-Event (n=407)	Age Groups					Total
Sport and Physical Activity Participation	16-25	26-35	36-45	46-55	56+	
Active (within sport and physical activity participation prior to the sport event)	29.9%	32.3%	13.1%	15.4%	9.3%	100.0%
Active (within age groups)	83.1%	91.0%	90.0%	76.8%	76.2%	84.5%
Non-Active (within sport and physical activity participation prior to the sport event)	33.3%	17.5%	7.9%	25.4%	15.9%	100.0%
Non-Active (within age groups)	16.9%	9.0%	10.0%	23.2%	23.8%	15.5%

Table 5.2 above indicates that the vast majority (84.5 percent) of the 2018 Women’s Hockey World Cup sample was active at the time of the event. Attenders aged between 16 and 45 were the most active, whereas attenders aged 46 and over were the highest amongst the inactive sample. There is very strong evidence of a significant association between the different age groups ($\chi^2= 10.605$, $p=0.031$) and sport and/or physical activity participation. The young attenders (16-25) of the during-event sample, are more likely to be active in comparison to those aged 46 and over.

Additionally, there was a statistically significant difference at the $p<0.05$ level for participation in sport and physical activity between the means of the five

age groups: $F(4, 402) = 2.689, p=0.031$. However, no significant differences in participation between the means were found.

In the literature review (Chapter 2), Hover and Breedveld (2015) found that 94% of the respondents from the 2013 European Youth Olympic Festival were already active. A similar pattern is seen in this study, whereby 84.5 percent of the overall sample and 83.1 percent of young people were active. Skirstad, Milena and Houlihan (2017) highlight the link between the levels of sport and physical activity in young people. Although the lack of sport and physical activity participation is regarded as an area of great concern, an upward trend has been witnessed with regards to young people participating in sport and/or physical activity (Sports Council Wales, 2009). Therefore, it may be suggested that younger attenders in the sample seem to be more active in comparison to the older demographics.

5.2.2.2 Type of Sport and Physical Activity Participation

Attenders were asked in which manner they were active, with options including Hockey, other sports and/or physical activity. Participants in the sample were able to select any option(s) that applied, allowing for multiple answers during the many survey completions. Table 5.3 below illustrates the type of sport and physical activity participation by age group.

Table 5.3 – During-event sport and physical activity participation by age groups and total sample (n=407)

During-Event (n=407) Sport and Physical Activity Participation	Age Groups					Total of Sample
	16-25	26-35	36-45	46-55	56+	
Hockey *	61.3%	47.5%	52.0%	30.4%	16.7%	46.2%
Other Sport(s)	44.4%	53.3%	46.0%	44.9%	35.7%	46.4%
Physical Activity	66.9%	65.6%	60.0%	69.6%	85.7%	68.1%

* statistically significant to $p<0.01$ level

The relationship between the different age groups and 'Hockey' participation is statistically significant ($\chi^2= 33.764, p<0.01; p=0.000$). As can be verified through table 5.3 above, participation in hockey (showcased sport) was the

prevalent type of sport participation for the 16-25-year olds in comparison to those aged 26 and over. Thus, for the younger attenders, hockey was a main form of sport participation, whereas the emphasis was primarily on general physical activity for the other demographics.

There was a statistically significant difference at the $p < 0.01$ level for participation in Hockey between the five age groups: $F(4, 399) = 11.3$, $p = 0.000$. Additionally, there is a statistically significant difference at $p < 0.05$ level for participation in physical activity for the different age groups: $F(4, 398) = 2.78$, $p = 0.029$. However, there was no significant difference for participation in other sports ($p > 0.05$). There is a statistically significant difference between the means of Hockey participation between attenders of the sample aged 16-25 and, 46-55 ($p < 0.01$) and 56 and over ($p < 0.01$). 16-25-year-old attenders of the event-based sample participated more in Hockey at the time of the event, in comparison to attenders aged 46 and over. Thus, evidence indicates that the showcased sport was prevalent amongst young people in comparison to the older demographics.

5.2.2.3 Reasons for Participation

In order to understand the full extent of the attenders' sport and physical activity participation, it is important to examine the reasons that influence and facilitate an individual to participate. Attenders of the event-based sample were questioned regarding their reasons for participation in the mentioned sport(s) and/or physical activity. Table 5.4 below displays the reasons chosen from a list, by attenders of the 2018 Women's Hockey World Cup.

Table 5.4 – During-event reasons for participation by age groups and total sample (n=407)

During-Event (n=407)		Age Groups					Total of (Yes) Sample
Reason Number	Reasons for Participation	16-25	26-35	36-45	46-55	56+	
1	Support from friends, family and teammates	31.4%	22.7%	32.0%	16.7%	7.3%	23.9%
2	Health and wellbeing	84.3%	86.6%	86.0%	84.8%	90.2%	85.9%

3	Participating with friends and/or family	61.2%	58.0%	52.0%	48.5%	41.5%	54.9%
4	Being advised by a doctor	0.8%	0.0%	2.0%	0.0%	7.3%	1.3%
5	Meeting new people	39.7%	31.1%	20.0%	15.2%	17.1%	28.2%
6	Fun and enjoyment	86.0%	89.1%	78.0%	74.2%	63.4%	81.6%
7	Competition	65.3%	55.5%	44.0%	24.2%	22.0%	48.4%
8	Other	4.1%	5.9%	8.0%	7.6%	14.6%	6.8%

Table 5.4 highlights 'health and wellbeing' (85.9 percent), 'participating with friends and/or family' (54.9 percent) and 'fun and enjoyment' (81.6 percent) as the primary reasons for sport and physical activity participation across the different age groups of the event-based sample.

The relationship between the different age groups and 'support from friends, family and teammates', 'being advised by a doctor', 'meeting new people', 'fun and enjoyment' and 'competition' is statistically significant ($\chi^2 = 13.733$, $p < 0.01$; $p = 0.008$; $\chi^2 = 14.861$, $p < 0.01$; $p = 0.008$; $\chi^2 = 18.066$, $p < 0.01$; $p = 0.001$; $\chi^2 = 17.805$, $p < 0.01$; $p = 0.001$; $\chi^2 = 43.493$, $p < 0.01$; $p = 0.000$). 'Health and wellbeing' was highlighted as a key reason across the different age groups, however it does not significantly differ by age.

'Support from friends, family and teammates' significantly decreases ($F(4, 392) = 5.15$, $p = 0.001$) amongst the sample for attenders aged over 45 years. There are significant mean differences between young attenders in the sample (16-25) and age groups 46-55 ($p = 0.003$) and 56 and over ($p = 0.040$). Evidence suggests that young attenders of the event sample attribute a higher degree of importance to the support from their social network in comparison to the older demographics. However, qualitative evidence from Allender, Cowburn and Foster (2006) shows that older adults maintained their participation through both enjoyment and strong social networks. Thus, data is contradicting in relation to the older demographics.

In addition, 'participating with friends and/or family' shows a gradual but significant decrease with an increase of age. Evidence indicates that older attenders in the sample do not identify this listed factor as an important contributor towards their participation in comparison to the younger attenders (particularly 16-25s) of the event-based sample. The listed key factor 'meeting new people' also points out to the same pattern as the previously mentioned reason ($F(4, 392) = 5.24, p=0.001$). Evidence therefore indicates that young attenders of the sample believe that meeting new people is important to them, and consequently is a key reason for participating in sport and physical activity.

'Fun and enjoyment' and 'competition' also have a significantly inverse relationship with age ($p=0.010$). Young attenders of the 2018 Women's Hockey World Cup sample attribute a higher importance to the enjoyment and competitive nature of participating in sport and physical activity in comparison to older attenders in the sample. However, as can be seen in table 5.4, it was an important reason across all age groups. 'Fun and enjoyment' significantly differed between the age groups ($F(4, 392) = 3.71, p=0.007$). Allender, Cowburn and Foster (2006) found that young children, teenagers and young adults identified 'enjoyment' as a key motivation for participation in sport and physical activity, thus supporting previous research. Furthermore, 'Competition' differed significantly in the means between attenders in the sample aged 16-25 and both 46-55 and 56 and over age groups ($F(4, 392) = 13.39, p=0.000$). 'Competition' is regarded as more important to 16 to 25-year old attenders in comparison to the older demographics. However, this contradicts some of the evidence of Allender, Cowburn and Foster (2006), which did not find 'competition' to be a facilitator amongst 16-25-year olds.

5.2.2.4 Recreation Participation

Participation in leisure activities include more than just sport and physical activity. Recreational activities such as dance, arts and music have been measured in relation to the different age groups (see table 5.5).

Table 5.5 – During-event recreational activity participation by age groups (n=407)

During-Event (n=407)	Age Groups					Total of Sample
Recreational Activity Participation	16-25	26-35	36-45	46-55	56+	
Dance	10.5%	4.9%	6.0%	4.3%	9.5%	7.1%
Arts	8.9%	4.9%	6.0%	7.2%	14.3%	7.6%
Music	23.4%	13.1%	10.0%	21.7%	23.8%	18.4%
Other	6.5%	7.4%	20.0%	11.6%	19.0%	10.6%
No	56.5%	72.1%	62.0%	60.9%	50.0%	61.9%

The relationship between participation in recreational activities and the different age groups is not statistically significant ($p > 0.05$). However, the relationship is significant for ‘no’ participation in recreational activities ($\chi^2 = 9.530$, $p < 0.05$; $p = 0.049$). Results show a significant relationship between not participating in dance, arts, music or other recreational activities and the different age groups. The attenders of the during-event sample primarily did not participate in any recreational activities, but those who did take part, ‘music’ was identified as the main activity.

There is a statistically significant difference at the $p < 0.05$ level for ‘no’ participation in recreational activities for the five age groups: $F(4, 402) = 2.48$, $p = 0.046$. The majority of attenders of the event-based sample did not participate in any form of recreational activities, with ‘music’ being the most popular type but no significant differences in participation amongst the age groups were found.

5.2.3 The Inspiration Effect

A research question of this PhD study is to test the extent to which attendance at major sporting event inspires the attenders. Table 5.6 below provides an overview of the related objective and research question.

Table 5.6 – Objective and research question related to the inspiration effect

Objective	To measure actual attitudinal and behavioural changes of young people aged 16-25, using the EIBC Model.
Research Question	To what extent does the attendance at the 2018 Women’s Hockey World Cup inspire the attenders, particularly young people aged 16-25, to increase their level of sport and physical activity participation?

As defined in Chapter Two, the inspiration effect is a motivator/influence which contributes to a positive change in behaviour (Bowles, Rissel & Bauman, 2006; Lane, Murphy & Bauman, 2008; Crofts, Schofield & Dickson, 2012). Major sporting events are considered to have the potential to act as catalysts which drive its attenders to a possible increase in sport/or and physical activity participation (Weed, 2009; Ramchandani et al, 2017). When analysing sporting events, the principal effect is the Trickle-down Effect, where elite sports people may act as inspirational figures but can also deter people from participating, as the level at which they perform may be seen as impossible to attain (Hindson, Gidlow & Peebles, 1994; Van den Heuvel & Conolly, 2001; Feddersen, Jacobsen & Maennig, 2009).

Previous research conducted by Ramchandani and Coleman (2012) shows that the inspiration effect is 61.6 percent for attenders of the 2010 FIH Women’s Hockey Trophy. The study relied heavily on cross-sectional survey methodology designed to model predecessor of attenders’ intention to participate in sport post-event. This is useful in identifying attitudinal, cognitive and emotional factors of the attenders’ experience contributing to a post-event intention to participate in sport and physical activity (Potwarka et al, 2019). The participants of the event-based sample (n=407) were asked whether ‘as a result of attending this event, do you feel inspired to do sport or physical activity more frequently than you would normally?’ and results show that approximately 58 percent of the attenders reported feeling inspired. Despite the evidence provided by Ramchandani and Coleman (2012) supporting the results of this study, the Women’s Hockey Trophy participants were asked a question which did not distinguish between the women’s and men’s event. Consequently, the inspiration effect of 61.6 percent could be higher or lower. Nevertheless, in answering the part of the research question, it is evident that

the 2018 Women’s Hockey World Cup had a positive inspirational effect (feeling) on the sample.

Whilst this study tests the overall inspiration effect of attending major sporting events, it is particularly focussed on the effect in relation to young people aged between 16 and 25. A breakdown of the inspiration effect by age group of the event-based sample is seen in figure 5.2 below.

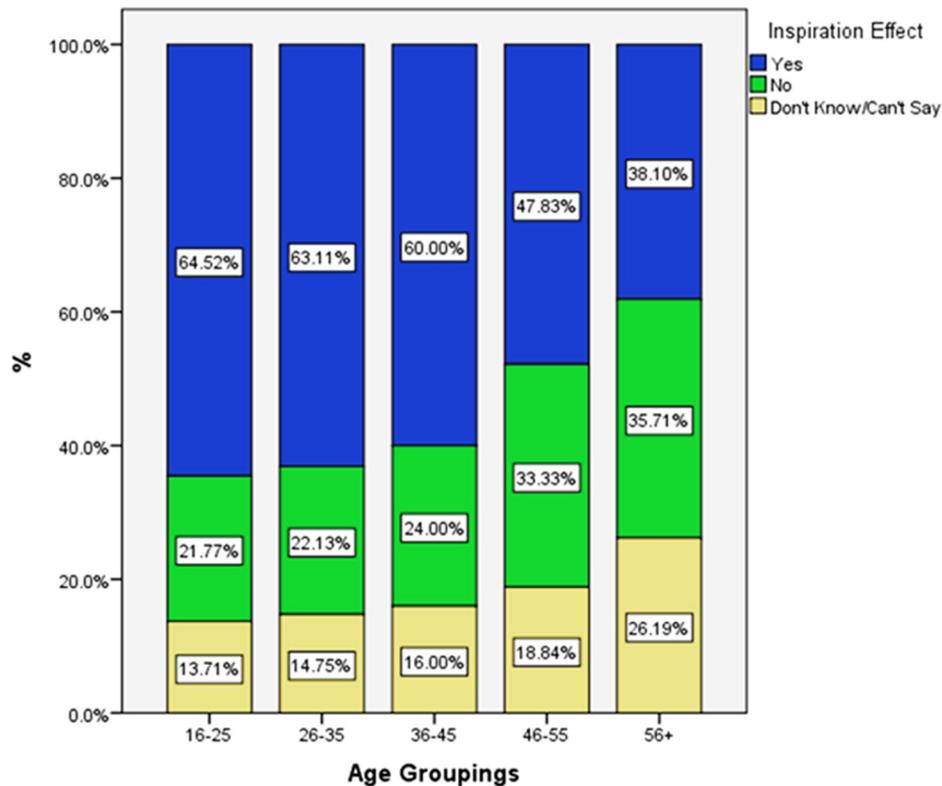


Figure 5.2 – Inspiration effect during-event (by age group)

The literature review highlights the lack of research for attenders under the age of 25 (Veal, Toohey & Frawley, 2012; Leeds City Council, 2014; Ramchandani, Davies, Coleman, Shibli & Bingham, 2015), whilst further suggesting that the inspiration effect is highest amongst the younger people (Frawley & Cush, 2011; Craig & Bauman, 2014). The results of the primary research of this PhD shows that the inspiration effect decreases with an increase in age (see figure 5.2). Thus, the inspiration is higher for attenders aged 16-25 (64.5 percent) in comparison to 26 and over (54.8 percent) of the event-based sample. There is a statistically significant association ($\chi^2 = 10.098$, $p < 0.05$; $p = 0.039$) between the inspiration effect of the event-based sample and the different age groups.

Attendees aged 16-25 are more likely to be inspired by the major sporting event in comparison to older attendees, thus supporting previous research.

The study conducted by Ramchandani and Coleman (2012a) highlighted that attendees were primarily active in sport and physical activity (as already established previously) and that the inspiration effect was significantly higher amongst more physically active attendees. Table 5.7 below supports the research conducted by Ramchandani and Coleman (2012a) and Weed et al (2015) as it highlights the inspiration effect as approximately 14.6 percentage points higher for those who are more physically active amongst 16 to 25-year-old attendees in comparison to those who are not active but felt inspired at the 2018 Women’s Hockey World Cup (event-based sample).

Table 5.7 – Inspiration effect of active/non-active attendees by age groups and total sample (n=407)

		Age Groups					Total
Sport and Physical Activity Participation Prior to Event	Inspiration Effect – as a result of attending the 2018 Women’s Hockey World Cup	16-25	26-35	36-45	46-55	56+	
Yes	Yes	67.0%	62.2%	55.6%	50.9%	34.4%	58.4%
	No	21.4%	21.6%	26.7%	30.2%	37.5%	25.0%
	Don’t Know/Can’t Say	11.7%	16.2%	17.8%	18.9%	28.1%	16.6%
No	Yes	52.4%	72.7%	80.0%	37.5%	50.0%	54.0%
	No	23.8%	27.3%	20.0%	43.8%	30.0%	30.2%
	Don’t Know/Can’t Say	23.8%	0.0%	0.0%	18.8%	20.0%	15.9%

Table 5.7 above highlights the variations of the inspiration effect across the different age groups, according to the level of sport and physical activity status (active or inactive). In relation to young people aged between 16 and 25, being active prior to attending the 2018 Women’s Hockey World Cup, had a greater impact on feeling inspired in comparison to being inactive. However, for the

inactive attenders in the sample aged between 26-35, 36-45 and 56 plus, the sense of inspiration was prevalent in comparison to active attenders in the same age groupings.

There is a significant association between the inspiration effect and the different age groups ($\chi^2= 9.953$, $p<0.05$; $p=0.041$). Young attenders of the sample, aged 16-25, felt more inspired than the older attenders.

There is no statistically significant difference at the $p<0.05$ level for the inspiration effect for the five age groups: $F(4, 335) = 2.2$, $p=0.072$. However, the relationship between the inspiration effect and age was investigated using Pearson correlation coefficient. There was a small, negative correlation between the two variables, $r= -0.16$, $n=340$, $p<0.05$, with the inspiration effect decreasing with an increase in age. Therefore, evidence highlights that the young attenders (16-25) of the sample seem to feel more inspired as a result of attending the 2018 Women's Hockey World Cup than attenders aged 26 and over. These results support the research conducted by Frawley and Cush (2011) and Craig and Bauman (2014). Therefore, young people who are active are more likely to be inspired by attendance of a major event in comparison to inactive young people. Overall, attenders of the sample aged 16-25 are more likely to be inspired as a result of attendance in comparison to older demographics, supporting research by Ramchandani et al (2017b).

5.2.3.1 Type of Inspiration Effect

Research of the 2014 Tour de France UK stages suggested that the major sporting event inspired its attenders to increase their levels of sport participation, in particular in the showcase sport (Cycling). However, the Potwarka, Drewery, Snelgrove and Havitz (2017) study emphasises the need to take into account sport and/or physical activity participation (other than the sport showcased at the event), in order to be able to truly test the extent of the inspiration effect. This PhD has attempted to achieve this by asking attenders of both samples (during and post-event) 'in which of the following do you feel inspired to participate more frequently?' to determine whether their inspiration is towards the showcased sport, another sport and/or general physical activity. Participants of the survey were able to select any of the applicable options. From a total of 236 attenders who responded positively to being inspired as a

result of attending the Women's Hockey World Cup, 59.7 percent said it was in relation to Hockey, 28.4 percent in relation to another sport, and 64.8 percent in relation to general physical activity. Inspiration in relation to Hockey and Physical Activity was the most noteworthy type for the overall inspiration effect sample. The outcome supports previous research such as Frawley and Cush (2011) and suggests that the inspiration effect in the sport being watched will be prevalent for those who are Hockey enthusiasts, whilst it is more likely that neutral attenders/supporters will be more inspired in relation to general sport and physical activity.

5.2.3.2 Young People Aged 16-25

A primary objective of this PhD is to test the inspiration effect for attenders aged 16-25. Although the literature review suggests that the inspiration effect is highest amongst the younger people (Frawley & Cush 2011; Craig & Bauman, 2014), it also highlights that there is a lack of research for attenders under the age of 25 (Veal, Toohey & Frawley, 2012; Leeds City Council, 2014; Ramchandani, Davies, Coleman, Shibli & Bingham, 2015). The results of the primary research of this PhD does suggest that the inspiration effect decreases with an increase in age (see figure 5.1). The inspiration is higher for 16-25s (64.5 percent) in comparison to 26+ (54.8 percent). There is a statistically significant association ($\chi^2= 10.098$, $p<0.05$; $p=0.039$) between the inspiration effect of the event-based sample and the different age groups. Thus, evidence suggests that there is a relationship between inspiration and age, which is statistically significant. Nevertheless, there are other factors which may affect the inspiration effect in tangible form, and these are examined throughout this chapter.

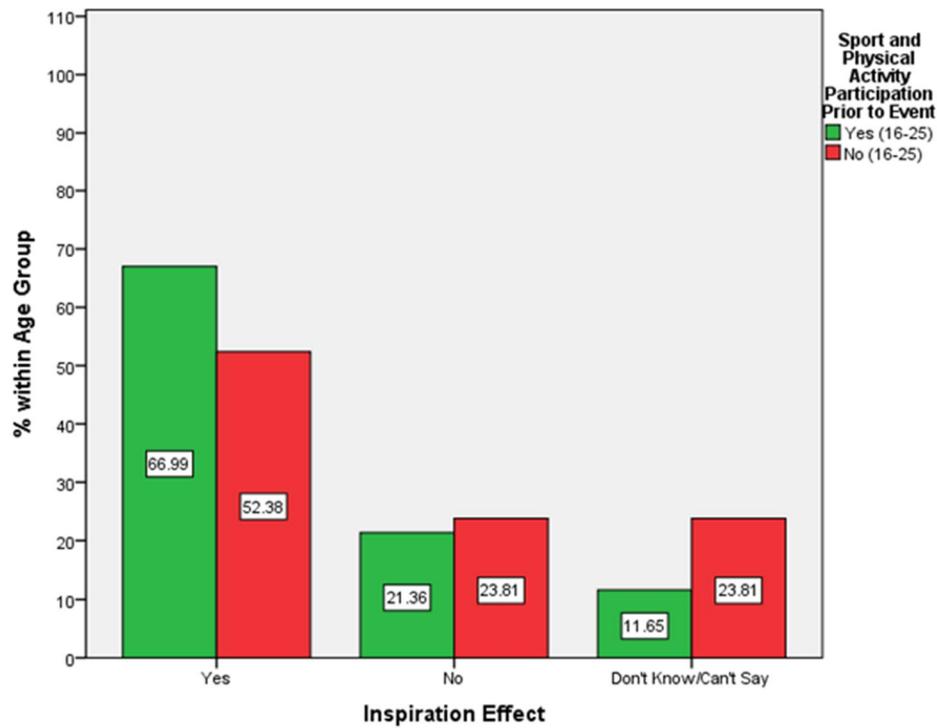


Figure 5.3 – Inspiration effect during-event by sport and physical activity participation

The study conducted by Ramchandani and Coleman (2012a) highlighted that attendees were primarily active in sport and physical activity (as already established previously) and that the inspiration effect was significantly higher amongst more physically active attendees. Results seem to support this with approximately 67 percent of active 16-25-year old attendees being inspired as a result of attending the 2018 Women’s Hockey World Cup (see figure 5.3). Evidence therefore supports the research conducted by Ramchandani and Coleman (2012a) and Weed et al (2015) as it highlights the inspiration effect is stronger for those who are more physically active amongst 16 to 25-year-old attendees.

The evidence illustrated below (table 5.8), suggests Hockey (72.5 percent) and general physical activity (50.0 percent) as the main types of inspiration by 16 to 25-year-old attendees. Approximately 21.3 percent of 16-25s affirmed they were inspired in relation to participating in another sport, and considering that the major sport event was showcasing Hockey, such outcome is not unreasonable.

Table 5.8 – Type of inspiration for 16-25s

Inspiration Effect (16-25s) (n=80/124)	Type of Inspiration		
	In relation to Hockey	In relation to another sport	In relation to general physical activity
	(58)	(17)	(40)
Yes	72.5%	21.3%	50.0%
	(22)	(63)	(40)
No	27.5%	78.8%	50.0%

Furthermore, Frawley and Cush’s (2011) findings suggest that the primary types of inspiration are in relation to the showcased sport. The results of the 2018 Women’s Hockey World Cup illustrate that the attenders of the event-based sample were mainly inspired in relation to Hockey (59.7 percent) and general physical activity participation (64.8 percent). Analysing in terms of the different age groups, the ‘inspiration in relation to Hockey’ is highest amongst attenders aged 16-25 and gradually decreases with age. The relationship between age and Hockey inspiration is statistically significant ($\chi^2=12.744$, $p=0.013$, $p<0.05$). However, in relation to general physical activity, the highest percentage is seen amongst the 46-55 age group, and the lowest point recorded for the 16-25-year olds. The relationship between age and general physical activity inspiration is statistically significant ($\chi^2=18.472$, $p=0.001$, $p<0.05$). The results thereby complement the current literature, supporting the theory that inspiration in relation to the showcased sport decreases with age. However, evidence suggests that inspiration in general physical activity is prevalent amongst the older demographics. This could potentially point to older attenders being more likely to feel a desire to participate in general physical activity as it is typically more accessible and easier to take part in.

Table 5.9 – Inspiration factor for attenders aged 16-25s

Inspiration Effect (16-25s) (n=80/124)	Inspiration Factors			
	The overall event atmosphere	The skill/ability of the athletes	Information I received at the event	The event venue
	(54)	(64)	(3)	(12)
Yes	67.5%	80.0%	3.8%	15.0%
	(26)	(16)	(77)	(68)
No	32.5%	20.0%	96.3%	85.0%

Table 5.10 – Inspiration factor for attenders aged 16-25s (Continued)

Inspiration Effect (16-25s) (n=80/124)	Inspiration Factors			
	The performance of the athletes I supported	The quality of the competition	Activities that took place around the main event	Other
	(49)	(50)	(8)	(4)
Yes	61.3%	62.5%	10.0%	5.0%
	(31)	(30)	(72)	76
No	38.3%	37.5%	90.0%	95.0%

Tables 5.9 and 5.10 show that out of 64.5 percent of 16-25s who reported to being inspired by attending the 2018 Women’s Hockey World Cup, the ‘overall event atmosphere’, ‘skill/ability of the athletes’, ‘performance of the athletes I supported’ and ‘quality of the competition’ were highlighted by the attenders as the main factors of inspiration (see table 5.9 above). There is a significant association between ‘skill/ability of the athletes’ ($\chi^2 = 10.158$, $p < 0.05$; $p = 0.038$) and ‘quality of the competition’ ($\chi^2 = 10.851$, $p < 0.05$; $p = 0.028$) and the different age groups of the event-based sample.

Additionally, a statistically significant difference at the $p < 0.05$ level for ‘the quality of the competition’ and the different age groups: $F(4, 231) = 2.783$, $p = 0.027$ was found. The ‘quality of the competition’ was significantly different in the means between attenders aged 16-25 and 26-35 of the event-based sample. Although the inspirational factor was stronger for ages 36 and over in comparison to 26-35, it is not significantly different. Thus, ‘quality of the competition’ is significantly more influential for young attenders in the sample aged 16-25 in comparison to the older demographics.

Research conducted by Ramchandani and Coleman (2012a) based on three major sports events hosted in the UK in 2010 revealed that an estimated 67 percent were inspired by the ‘quality of the competition’ and ‘the skill and ability of the athletes/teams’. The evidence above is in support of this as it emphasises the previously mentioned inspiration factors as influential to the attenders’ event experience in increasing their participation in sport and physical activity. However, the event-based sample of the 2018 Women’s Hockey World Cup also pointed to the ‘performance of the athletes I supported’ (61.3 percent) as an inspiration factor.

Ultimately, results suggest that there is a relationship between inspiration and age of the event-based sample, which is statistically significant ($p < 0.05$; $p = 0.039$). The inspiration effect is highest amongst the 16-25-year olds, and decreases with an increase in age, with the lowest seen for attenders aged 56+. This study has shown that young people aged between 16 and 25 are more likely to be inspired by major sport event attendance in comparison to older attenders. Additionally, inspiration towards Hockey and general sport and physical activity participation were the main outcomes of the inspiration effect for the aggregate sample. Hence, this data supports previous research (Frawley & Cush, 2011), which highlight the inspiration effect to be prevalent for the showcased sport. Nevertheless, this only provides an indication of the feelings towards sport and physical activity participation and does not represent actual behaviour change.

5.2.4 Intention

A strong predictor of behaviour is 'intention', which illustrates the individual's aim or plan to carry out a particular action. Therefore, this means measuring the intangible precursor of behaviour (tangible). Table 5.10 provides an overview of the objective and research question relating to intention.

Table 5.11 – Objective and research question related to intention

Objective	To measure actual attitudinal and behavioural changes of young people aged 16-25, using the EIBC Model.
Research Question	To what extent does the attendance at the 2018 Women's Hockey World Cup affect attenders' intention to participate in more sport and physical activity?

The attenders' 'intention' to increase their pre-event levels of sport and physical activity participation is affected by attitude (Potwarka et al, 2019). Thus, in order to test for attitudinal changes, intention needs to be examined. Maennig (2007) and McCartney et al (2010) state that 'intention' may be short, medium or long-term, therefore it can be suggested that any measurement of 'intention' is only an indication of the individual's attitude towards sport and physical activity. Nevertheless, it is a strong predictor of potential behaviour change (Potwarka, 2015). In order to successfully measure any changes in attitude towards sport, attenders were asked if 'prior to attending this event,

were you planning over the next three months to...?’ which would then provide an indication of the pre-event attitude status. The intention to participate in sport and physical activity prior to the Women’s Hockey World Cup indicates that amongst the different age groups, the attenders intended to either increase (40.8 percent) or maintain (51.6 percent) their participation levels. The 16-25s and 26-35s had the largest percentage for intending to mainly increase (46.8 percent & 46.7 percent) their participation levels, whilst the 36-45s, 46-55s and 56+ reported they intended to primarily maintain (34 percent, 29 percent and 33.3 percent) their levels of participation (see table 5.12 below). Thus, it can be suggested that the younger attenders (16-35s) are more likely to want to increase their sport and physical activity participation levels in comparison to the older attenders (36 and over).

Table 5.12 – Intention to increase sport and physical activity participation prior to event by age groups (n=407)

Intention Prior to Event – During-Event Sample	Age Groups					Total
	16-25	26-35	36-45	46-55	56+	
Intention – to increase sport and physical activity participation levels						
Increase	46.8%	46.7%	34.0%	29.0%	33.3%	40.8%
Maintain	48.4%	48.4%	58.0%	56.5%	54.8%	51.6%
Reduce	0.8%	2.5%	6.0%	0.0%	0.0%	1.7%
Don’t Know/Can’t Say	4.0%	2.5%	2.0%	14.5%	11.9%	5.9%

The relationship between the different age groups and intention to participate in sport and physical activity is not statistically significant ($\chi^2 = 14.255$, $p > 0.05$; $p = 0.075$). Furthermore, there is no statistically significant difference at the $p > 0.05$ level of the intention for the five age groups: $F(4, 378) = 2.5$, $p = 0.173$. Nevertheless, evidence points to the young attenders of the sample having a positive attitude towards the behaviour pre-event (see table 5.12 above). However, this only shows a potential ‘intention’ to change behaviour (Frawley & Cush, 2011; Boardley, 2013; Wicker & Sotiriadou, 2013; Bauman, Bellew

and Caig, 2014; Potwarka, 2015; Ramchandani et al 2017a). Nevertheless, Potwarka (2015) found that that attenders of the 2010 Vancouver Winter Olympics who intended to become more active also expressed a positive attitude toward that behaviour.

5.2.5 Theory of Planned Behaviour – TPB

The beliefs are influenced by perceived behavioural control, and subjective norm which relate to the perceived ability and confidence levels, and social pressure perception respectively.

5.2.5.1 Perceived Behavioural Control – Perception of Ability

Attitude and intention towards participating in sport and physical activity may be influenced by the perception of their current ability to be able to successfully take part in the behaviour (i.e self-esteem). Barnett, Morgan, van Beurden and Beard (2008) found that children who are skill proficient may develop a high perception of sport competence, which ultimately leads to greater participation in sport and physical activity. The higher the attender’s confidence levels and perceived ability, the more likely it is for progression across the stages of change. An adaptation of the Rosenberg Self-Esteem Scale was used in the during-event survey to measure the level of perceived confidence and ability to successfully partake in sport and physical activity. The event-based sample as seen in table 5.13 below, highlights to the majority of the sample (90.7 percent) as either confident or very confident in their ability towards sport and physical activity.

Table 5.13 – PBC/Self-Esteem (total sample n=407)

PBC/Self-Esteem	Frequency	Total
Low	38	9.3%
Medium	277	68.1%
High	92	22.6%
n=	407	100%

Self-esteem is not statistically significant across the different age groups ($p=0.663$, $p>0.05$), most likely due to the fact that the difference between specific age groups is very small. A breakdown of the scores by age group (see figure 5.4 below), illustrates that the main differences are seen between 36-45 and 56+ age groups, whilst the other age groups only show a slight variation. The highest percentage of low scores was experienced by the 56+ (49%) and indicates a pattern with age (the younger the attendee, the less likely they are to have low scores).

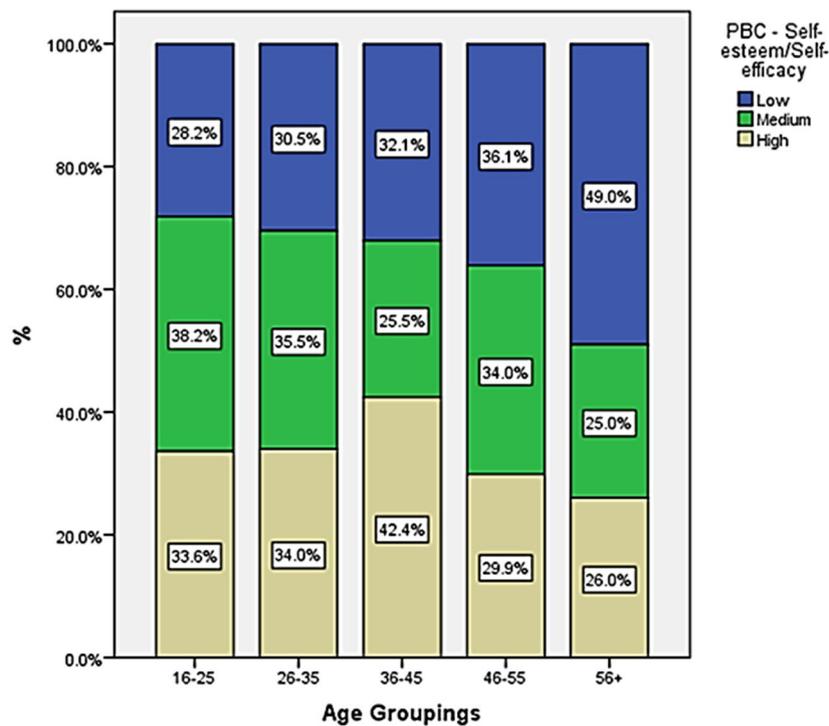


Figure 5.4 – PBC/Self-Esteem by age groups

There is no statistically significant difference at the $p<0.05$ level for the self-esteem levels and the different age groups: $F(4, 402) = 0.626$, $p=0.644$. Thus, the confidence levels between the different age groups do not significantly differentiate in terms of the mean. Attendees of the event-based sample are generally confident or very confident in their ability to successfully partake in sport and physical activity. The data supports Barnett, Morgan, van Beurden and Beard (2008) as attendees of the sample aged between 16-25 reported medium/high levels of PBC/Self-esteem, in addition to having one the highest

sport and physical activity participation rates in comparison to older demographics.

5.2.5.2 Subjective Norm, Past Experiences and Attitude Towards the Behaviour

Implicit in Ajzen and Fishbein’s (2005) TPB model are fundamental assumptions relating to intention and behaviour. The assumptions are illustrated in table 5.14 below.

Table 5.14 – TPB – fundamental assumptions (Ajzen and Fishbein, 2005)

Theory of Planned Behaviour	
Number	Fundamental Assumptions
1	Intention is the immediate predecessor of actual behaviour
2	Intention is determined by attitude towards the behaviour, subjective norm and perceived behavioural control
3	These determinants are a function, respectively, of underlying behavioural, normative and control beliefs
4	Behavioural, normative and control beliefs can vary as a function of a wide range of background factors

This study has measured the subjective norm, attitude towards the behaviour, and past experiences which may influence the intention to perform the behaviour (sport and physical activity participation), and consequently the actual behaviour (Ajzen and Fishbein, 2005).

Table 5.15 – During-event sample: subjective norm (social pressure), attitude towards the behaviour (desire to participate) and past behaviour (past experiences) by age groups

During-event (n=407)		Age Groups				
		16-25	26-35	36-45	46-55	56+
Theory of Planned Behaviour	6-point Likert scale					

Subjective Norm / Social pressure	Strongly Disagree	25.0%	22.2%	20.0%	25.0%	44.4%
	Disagree	58.3%	11.1%	20.0%	41.7%	0.0%
	Neither Agree nor Disagree	8.3%	11.1%	40.0%	33.3%	44.4%
	Agree	8.3%	55.6%	20.0%	0.0%	12.5%
	Strongly Agree					
	Don't Know					
Attitude Towards the Behaviour / Desire to participate	Strongly Disagree	0.0%	1.6%	0.0%	1.4%	0.0%
	Disagree	0.8%	0.0%	0.0%	2.9%	0.0%
	Neither Agree nor Disagree	4.0%	4.9%	2.0%	8.7%	2.4%
	Agree	37.9%	36.1%	38.0%	46.4%	61.9%
	Strongly Agree	56.5%	57.4%	60.0%	40.6%	33.3%
	Don't Know	0.8%	0.0%	0.0%	0.0%	2.4%
Past Behaviour / Past experiences in sport	Strongly Disagree	2.4%	1.6%	0.0%	1.4%	0.0%
	Disagree	2.4%	2.5%	0.0%	4.3%	0.0%
	Neither Agree nor Disagree	5.6%	4.1%	6.0%	7.2%	14.3%
	Agree	37.1%	32.0%	36.0%	37.7%	40.5%
	Strongly Agree	51.6%	59.8%	58.0%	49.3%	45.2%
	Don't Know	0.8%	0.0%	0.0%	0.0%	0.0%

Table 5.15 illustrates the application of the different elements of the TPB on the evidence gathered. There is a significant association between 'social pressure' ($\chi^2 = 23.644$, $p < 0.05$, $p = 0.023$) and the different age groups. However, 'past experiences in sport' and 'desire to participate' (attitude towards behaviour) are not significantly associated to the different age groups.

Table 5.16 – During-event One-way ANOVA test (n=407)

One-way ANOVA test	
Theory of Planned Behaviour	ANOVA/Robust Tests of Equality of Means
Past behaviour / Past experiences in sport	F (4, 402) = 0.932, p=0.445, p>0.05
Subjective norm / Social pressure	F (4, 402) = 0.729, p=0.574, p>0.05
Attitude towards the behaviour / Desire to participate	F (4, 402) = 3.000, p=0.018, p<0.05 *

* statistically significant to p<0.05 level

A summary of the one-way ANOVA test conducted is shown above in table 5.16. Results highlight a statistically significant difference at the p<0.05 level for the attitude towards the behaviour (desire to participate) and the different age groups. Moreover, there is a significant difference in the means between age groups 16-25 and 46-55 (p=0.034). The older age group has a lower attitude towards sport and physical activity in comparison to the younger demographic. Nevertheless, this difference is primarily between ‘agree’ and ‘strongly agree’ answers, which means one could assume that both groups may still have a strong desire to participate in sport and physical activity. The attitude ‘towards the behaviour’ is strong across attenders of the event-based sample, highlighting a positive attitude towards participation.

5.2.6 Facilitating and Mitigating Factors

As highlighted in Chapter Two, there is scarcity of research regarding the driving factors of potential behaviour change in sport and physical activity participation. Table 5.17 provides an overview of the objective and research question related to the facilitating and mitigating factors of sport and physical activity participation.

Table 5.17 – Objective and research question related to facilitating and mitigating factors

Objective	To examine and test the driving factors that may facilitate or mitigate a positive change in sport and physical activity behaviour of attenders aged 16-25, using the EIBC Model.
Research Question	What are the facilitating and mitigating factors that impacts on the attenders’ sport and physical activity participation?

As suggested by Ramchandani and Coleman (2012), there are causal factors that go beyond the control of a major sporting event, which include issues with health, money, opportunities to partake in sport and physical activity, and lifestyle considerations. Therefore, it is important to consider these when examining changes in sport and physical activity behaviour.

5.2.6.1 Facilitating Factors

'Available transport' (29.8 percent), 'Money' (44.4 percent), 'Accessibility to sports facilities' (70.9 percent) and 'Available sporting and exercise opportunities' (66.9 percent) were highlighted by event attenders as factors which facilitate or would facilitate their participation in sport and physical activity. A statistically significant association between these factors and the different age groups was found: Available sporting and exercise opportunities ($\chi^2=14.111$, $p=0.007$), Available transport ($\chi^2=30.481$, $p=0.000$), Money ($\chi^2=24.781$, $p=0.000$) and Accessibility to sports facilities ($\chi^2=22.936$, $p=0.000$).

In addition, these facilitating factors previously highlighted were of higher proportion in the 16-25s (Available transport: 29.8 percent, Money: 44.4 percent, Accessibility to sports facilities: 70.9 percent, and Available sporting and exercise opportunities: 66.9 percent) and lower for the older age groups.

For the previously mentioned facilitating factors for the different age groups, there is a statistically significant difference at the $p<0.01$ level for the group means: $F(4, 402) = 9.853$, $p=0.000$ (available transport), $F(4, 402) = 3.276$, $p=0.013$ (being advised by a doctor) $F(4, 402) = 3.571$, $p=0.008$ (available sporting and exercise opportunities), $F(4, 402) = 7.640$, $p=0.000$ (money) and $F(4, 402) = 6.168$, $p=0.000$ (accessibility to sports facilities). 'Available transport' is considered a key facilitating factor for 16-25-year olds in comparison to the older demographics. Additionally, there was a significant difference in the means between 16-25 and 56 and over. 'Being advised by a doctor' illustrated an inverse relationship with age, where the younger attenders of the sample (16-25) did not believe this factor was facilitating, in contrast with attenders in the older age groups. Furthermore, there is a significant difference in the means between young people (16-25) and 46-55-

year olds for 'available sporting and exercise opportunities', with 'Money' and 'accessibility to sports facilities' also being significantly different between 16-25-year old attenders in the sample and both 36-45 and 46-55 age groups.

In summary, the youngest attenders in the sample highlighted access to sports facilities as important to sport and physical activity participation, whereas for the older attenders believe it is less essential. Evidence indicates that 16-25-year old attenders in the sample attribute more importance to money available in comparison to the older attenders in the sample.

The facilitating factors above could be considered reasonable as they are all real-life factors which could highly influence an individual's participation in sport and physical activity. Furthermore, the previous demographic results in the data analysis showed that approximately 41 percent of 16-25s were in full-time employment (30+ hours/week), and approximately 50 percent were in full-time education (university/college/school), which could explain why income is an important factor.

5.2.6.2 Mitigating Factors

The cross-tabulation between the age of participants (age groups) and the mitigating factors highlighted 'cost' (34.4 percent), 'inaccessibility of sports facilities' (28.5 percent), 'lack of transportation' (17.4 percent), 'age' (10.1 percent), and 'lack of time (including childcare)' (59.5 percent) as factors which would mitigate event attenders' participation in sport and physical activity. A statistically significant relationship between these factors and the various age groups was verified: cost ($\chi^2=23.312$, $p=0.000$), inaccessibility of sports facilities ($\chi^2=10.480$, $p=0.033$), lack of transportation ($\chi^2=45.118$, $p=0.000$), age ($\chi^2=30.481$, $p=0.000$) and lack of time (including childcare) ($\chi^2=10.555$, $p=0.032$).

These mitigating factors were of higher proportion in the 16-25s (Lack of transportation: 36.3 percent, Cost: 46.0 percent, Inaccessibility of sports facilities: 36.9 percent, and Lack of support from social group: 16.9 percent) and lower for the older age groups. Additionally, there is a statistically significant difference at the $p<0.05$ level for the group means of these mitigating factors and the different age groups: $F(4, 402) = 7.842$, $p=0.000$

(age), $F(4, 402) = 2.683$, $p=0.034$ (lack of time) $F(4, 402) = 9.353$, $p=0.015$ (lack of transportation), $F(4, 402) = 6.922$, $p=0.000$ (cost), $F(4, 402) = 2.703$, $p=0.033$ (inaccessibility of sports facilities) and $F(4, 402) = 3.198$, $p=0.015$ (lack of support from social group).

A significant difference in the means between young attenders age 16-25 and the older age groups was evident. Attenders in the sample indicated 'lack of transportation' as a significant mitigating factor, however attenders were not asked to state which current transportation method they use. Thus, it is not possible to provide a connection between age and transportation utilised. Evidence highlights 'cost' as a significant mitigating factor for 16-25-year olds in relation to 46-55 and 56 and over. Porter (2002) found that older people identified cost and time as the main barriers to sport and physical activity participation. Attenders seems to indicate that it is more likely that an attender over the age of 26 has transport available and/or disposable income to pay for public transport. 'Age' is significantly different between the youngest age group (16-25) and the oldest (56+). Results indicate that 'age' is a mitigating factor predominantly for the young attenders of the sample. There was also a significant difference in terms of the 'lack of support from social group' between 16-25-year olds and both 26-35 and 46-55 age groups. The young attenders in the sample attribute more importance to having the support from their friends and family than older attenders in the sample.

5.2.6.3 Young People 16-25

UK Sport and SIRC (2012) suggest that there are other "*causal factors beyond the control of a major event that determine whether people translate any sense of inspiration into actual behavioural change*" (p8). Thus, whilst the evidence from the 2018 Women's Hockey World Cup on the different facilitating and mitigating factors of participation does not establish the attribution of any possible inspiration effect to the event, it illustrates the key factors of those listed which impact participation. In this case, it was established that 'cost' and 'lack of time' were primary barriers to sport and physical participation, with inaccessibility to sports facilities, age and lack of transportation also having a significant effect. Thus, should attenders have the intention and desire to participate, these factors may act as significant deterrents.

Lera-Lopez and Rapun-Garate (2007), Wicker, Breuer and Pawlowski (2009), Downward and Rasciute, 2010; UK Sport & SIRC, 2011; UK Sport and SIRC (2012), Ramchandani et al (2015), Potwarka et al (2015) state there are external factors that affect and influence people's sport and physical activity participation levels. As can be seen by the evidence above, from the 124 attenders between 16 and 25 years of age, factors such as 'available sporting and exercise opportunities' (67.5 percent), 'accessibility to sports facilities' (71.5 percent), 'more time' (60 percent) and 'support from friends, family and teammates' (52 percent) were highlighted as facilitating their participation in sport and physical activity. The mitigating factors emphasised were 'lack of time' (59.5 percent), 'cost' (47.1 percent), 'inaccessibility to sports facilities' (38.8 percent), 'poor health' (36.4 percent), 'lack of transportation' (37.2 percent) and 'injury and/or behaviour of a role model in sport' (38.8 percent). The 'lack of time' mitigating factor supports the facilitating factor 'more time': 'time' is essential to the sport and physical activity participation, while levels may fluctuate depending on the time available. It is also important to point out that young attenders highlight 'injury and/or behaviour of a role model in sport' as a mitigating factor, and that it may potentially act as a discouragement effect (Wicker & Sotiriadou, 2013; Weed et al, 2015; Potwarka, 2015).

5.2.7 Stages of Change

As analysed in Chapter Three, the TTM is a model illustrating an individual's engagement with sport and physical activity (Weed, Coren, Fiore, Mansfield, Wellard, Chatziefstathiou & Dowse, 2009). The model suggests that individuals attempting to change their sport and physical activity behaviour (positive or negative) move through five distinct stages (Pre-Contemplation, Contemplation, Preparation, Action and Maintenance), which differ according to intention and behaviour (Ramchandani et al, 2017). The data from the 2018 Women's Hockey World Cup was collected with the TTM as the foundation for the survey questions and the 'Event Inspired Behaviour Change Model' (EIBCM). Overall, across the aggregate attendee sample, 15.5 percent had not participated in any sport in the four weeks pre-event, (pre-contemplators, contemplators and preparation), whereas 84.5 percent had undertaken sport in the same time period (action and maintenance) (table 5.18).

Table 5.18 – TTM (Stages of Change) pre/during-event by gender and age groups

Pre/During-Event (n=407)	Pre-Contemplation (No sport in last 4 weeks & no intention to increase)	Contemplation (No sport in last 4 weeks & intention to increase)	Preparation (<30min/week & no intention to increase)	Action (30-149 min/week)	Maintenance (150+ min/week)
Male	41.7%	26.9%	0%	42.4%	44.8%
Female	58.3%	73.1%	0%	57.6%	55.2%
16-25	32.4%	34.6%	0%	20.7%	33.3%
26-35	10.8%	26.9%	0%	31.5%	32.5%
36-45	8.1%	7.7%	0%	15.2%	12.3%
46-55	35.1%	11.5%	0%	18.5%	14.3%
56+	13.5%	19.2%	0%	14.1%	7.5%
Overall	15.5%			84.5%	

Table 5.19 below has been transformed to reduce the limitation of the lack of people situated in the ‘preparation’ stage, thus, by aggregating the stages of changes as ‘Non-Active’ and ‘Active’, a clearer perspective of the results may be illustrated and subsequently translated into the transformed EIBCM.

Table 5.19 – Transformed TTM (Stages of Change) pre/during-event by age groups

Pre/During-Event (n=407)	Inactive			Active	
	Pre-Contemplation (No sport in last 4 weeks & no intention to increase)	Contemplation (No sport in last 4 weeks & intention to increase)	Preparation (<30min/week & no intention to increase)	Action (30-149 min/week)	Maintenance (150+ min/week)
16-25	41.27%	58.73%		26.74%	72.26%
26-35					
36-45					
46-55					
56+					
Overall	15.5%			84.5%	

The proportion of females was high relative to males in the pre-contemplation, contemplation and maintenance stages; whereas males were equal in proportion in the action stage. There were no attenders in the preparation stage, as there were no individuals doing less than 30 minutes of sport and physical activity per week and with the intention to increase their participation. Young attenders aged 16-25 recorded the highest percentage across the pre-contemplation, contemplation and maintenance stages; whereas the 26-35-year-old attenders were the highest for the action stage. In relation to the action and maintenance stages (regular and sustained participation), they consisted primarily of attenders between 16 and 35 of the sample. This contradicts the results by Ramchandani et al (2017), who found ‘pre-contemplation’ to be prevalent for the 55+ age group and subsequently for the 35-44. However, this is due to the fact the sample sizes were considerably different between both samples. Additionally, evidence from the 2018 Women’s Hockey World Cup suggests attenders aged 16-25 were mainly in the ‘maintenance’ stage, whilst the previous research highlights this is the case for the 25-34-year olds.

Table 5.20 – Inspiration effect in each TTM stage of change by age group

Inspiration Effect (n=235)	Non-Active			Active	
	Pre-Contemplation (No sport in last 4 weeks & no intention to increase)	Contemplation (No sport in last 4 weeks & intention to increase)	Preparation (<30min/week no intention to increase)	Action (30-149 min/week)	Maintenance (150+ min/week)
16-25	33.3%	28.6%		22%	38.4%
26-35	16.7%	28.6%		40%	32.5%
36-45	16.7%	9.5%		16%	11.3%
46-55	25.0%	14.3%		14%	13.2%
56+	8.3%	19.0%		8%	4.6%
Overall	5.11%	8.94%	0.0%	21.3%	64.3%

The inspiration effect is prevalent for the 16-25s in the pre-contemplation, contemplation and maintenance stages (table 5.20). A higher percentage between the ages of 16 and 35 who do sport and physical activity on a more regular basis felt inspired. A similar trend is seen in the pre-contemplation and

contemplation stages with a more substantial portion of younger attenders reporting being inspired to participate in more sport and physical activity. This supports the evidence provided earlier in the section where younger attenders are more likely to be inspired to do more sport relative to those who are older.

5.2.8 Processes of Change and Decisional Balance

In order to understand how changes in behaviour occurs, it is important to measure the ‘processes of change’ and ‘decisional balance’. Table 5.21 below illustrates the objective and research associated to these previously mentioned measures.

Table 5.21 – Objective and research questions related to the processes of change and decisional balance

Objective	To measure actual attitudinal and behavioural changes of young people aged 16-25, using the EIBC Model.
Research Questions	What is the influence of the Processes of Change and Decisional Balance on attenders’ attitudinal and behavioural change?

Recent research (Ramchandani et al, 2017a) involving the use of the TTM does not specifically take into consideration the processes of change (experiential and behavioural processes) and decisional balance. These are a key dimension of the TTM which enable the further understanding of how shifts in behaviour occur (Prochaska, Velicer, DiClemente, & Fava, 1988). The processes of change are therefore covert and overt activities and experiences that individuals engage in when they attempt to modify problem behaviours. The attenders who agreed to conduct follow-up research, were asked to rate a 6-point Likert scale (strongly disagree, disagree, neither agree nor disagree, agree, strongly agree and don’t know) different statements which represent the stages of change and decisional balance. The results are illustrated in tables 5.22 and 5.23 below.

Table 5.22 – During-event sample: processes of change (stimulus control & social liberation) by age groups

During-Event Sample (n=407)		Age Groups				
Processes of Change	6-point Likert scale	16-25	26-35	36-45	46-55	56+

Stimulus control	Strongly Disagree	0.0%	3.3%	4.0%	2.9%	0.0%
	Disagree	16.9%	22.1%	10.0%	17.4%	11.9%
	Neither Agree nor Disagree	16.1%	19.7%	36.0%	31.9%	19.0%
	Agree	49.2%	36.1%	34.0%	37.7%	57.1%
	Strongly Agree	14.5%	18.0%	16.0%	10.1%	7.1%
	Don't Know	3.2%	0.8%	0.0%	0.0%	4.8%

Table 5.23 – During-event sample: processes of change (stimulus control & social liberation) by age groups (Continued)

During-Event Sample (n=407)		Age Groups				
Processes of Change	6-point Likert scale	16-25	26-35	36-45	46-55	56+
Social liberation	Strongly Disagree	6.5%	9.8%	0.0%	0.0%	4.8%
	Disagree	37.1%	27.0%	30.0%	24.6%	11.9%
	Neither Agree nor Disagree	12.9%	16.4%	16.0%	33.3%	26.2%
	Agree	33.9%	33.6%	30.0%	27.5%	42.9%
	Strongly Agree	4.0%	9.8%	12.0%	7.2%	7.1%
	Don't Know	5.6%	3.3%	12.0%	7.2%	7.1%

There is a significant association between 'stimulus control' ($\chi^2 = 35.240$, $p < 0.05$, $p = 0.019$) and 'social liberation' ($\chi^2 = 41.376$, $p < 0.05$, $p = 0.003$), and the different age groups. Results indicate that 63.7 percent of 16-25 attenders of the sample agreed or strongly agreed that they are generally able to avoid temptations to be inactive, and as a result add new reminders to do active reminders (see table 5.22). This decreases with an increase in age, therefore, evidence indicates that the older attenders in the sample are less likely to control any inactive temptations in comparison to 16-25-year olds. On the other

hand, there is no statistically significant association between decisional balance and the different age groups.

However, there were no statistically significant differences in the group means for the other processes of change for the different age groups. However, there is a statistically significant difference in the means of the decisional balance for the different age groups (see table 5.24 below).

Table 5.24 – During-event: One-way ANOVA test – decisional balance (n=407)

During-Event (n=407)	One-way ANOVA test
	ANOVA/Robust Tests of Equality of Means
Decisional Balance	Brown-Forsythe – F (4, 402) = 2.911, p=0.022, p<0.05

The belief regarding the benefits of sport and physical activity participation outweighing the negatives is significantly stronger for young attenders aged 16-25 in the sample in comparison to attenders aged 46-55 (Mean difference=0.280, p=0.037, p<0.05). The ‘processes of change’ and ‘decisional balance’ indicate a generally positive attitude for the attenders in the sample.

5.3 Post-Event

5.3.1 Post-Event Sample Overview

Following an analysis of the during-event data, under the conditions of the 2018 Women’s Hockey World Cup, an estimated 37 percent (n=47) of the attenders who agreed to be contacted for future research responded to the post-event survey. Nevertheless, it is important to emphasize the small size of the post-event sample in comparison to the during-event sample. As a result, there are some variables which do not provide a large enough number of participants to draw any significant conclusion and therefore make substantiated claims.

Table 5.25 below provides an overview of the post-event sample, including the participation status, type of participation, attendance at other major sports events and intention according to age group.

Table 5.25 – Post-event – overview of sample, sport and physical activity participation, type of participation, attendance at other major sports events and intention

Post-Event (n=47)	Age Groups					Total
	16-25	26-35	36-45	46-55	56+	
Sample						
Post-event	25.5%	19.15%	10.7%	25.5%	19.2%	100%
Sport and Physical Activity Participation						
Active (within sport and physical activity participation prior to the sport event)	27.3%	20.5%	11.4%	27.3%	13.6%	100%
Active (within age groups)	100%	100%	100%	100%	66.7%	93.6%
Non-Active (within sport and physical activity participation prior to the sport event)	0.0%	0.0%	0.0%	0.0%	100%	100%
Non-Active (within age groups)	0.0%	0.0%	0.0%	0.0%	33.3%	6.4%
Hockey	75.0%	55.6%	60.0%	41.7%	11.1%	48.9%
Other Sport(s)	50.0%	33.3%	40.0%	41.7%	44.4%	42.6%
Physical Activity	66.7%	66.7%	60.0%	58.3%	77.8%	66.0%
Attendance at other major sports events						
Yes (n=15)	8.3%	11.1%	60.0%	41.7%	55.6%	31.9%
No (n=32)	91.7%	88.9%	40.0%	58.3%	44.4%	68.1%
Intention – to increase sport and physical activity participation levels in the next 3 months						
Increase	58.3%	22.2%	40.0%	41.7%	33.3%	40.4%
Maintain	33.3%	77.8%	60.0%	58.3%	55.6%	55.3%
Reduce	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table 5.25 above highlights that 93.6 percent of the attenders of the post-event sample were active. However, since a clear majority of the during-event sample was already active, evidence indicates an increase of the active participants in relation to the during-event sample (84.5 percent).

5.3.2 Reasons for Participation and Recreation Participation

5.3.2.1 Reasons for Participation

Post-event data highlights 'meeting new people' and 'competition' as having a statistically significant association to age. Young people aged 16-25 in the sample attribute more importance to these factors in relation to older attenders in the sample. Evidence therefore supports the during-event data, indicating that the social element and the competitive nature of sport and physical activity participation is more important to young participants in comparison to the older demographics.

5.3.2.2 Recreation Participation

46.8 percent (n=22) of the post-event attenders in the sample reported they did not partake in any recreational activities. The post-event recreation participation data supports the during-event evidence (61.9 percent), highlighting that a high portion of the attenders in the sample did not participate in any recreational activities. However, the limited size of the post-event sample makes it difficult to make any substantive claims related to participation in recreational activities.

5.3.3 The Inspiration Effect

5.3.3.1 Inspiration effect attributed by attenders to the 2018 Women's Hockey World Cup

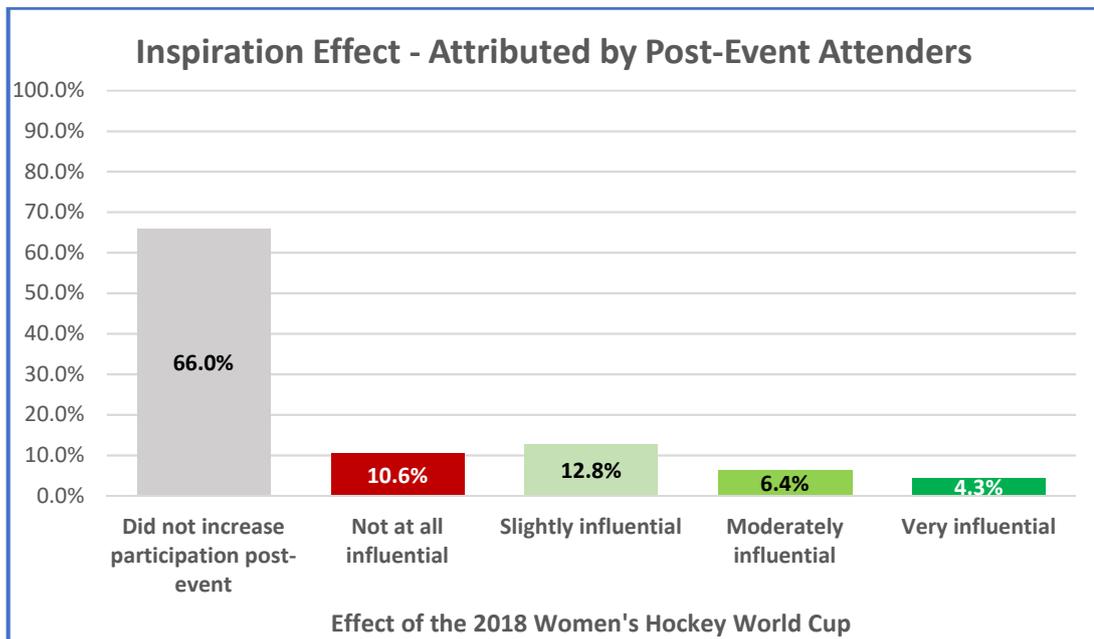


Figure 5.5 – Inspiration Effect Attributed by Attenders to the 2018 Women's Hockey World Cup (Post-Event)

The post-event sample (n=47) was asked 'to what extent would you say that your attendance at the 2018 Women's Hockey World Cup in London has been influential in leading you to undertake more sport/physical activity now, than you were doing before the event?'. The post-event data shows (see figure 5.5) that 34 percent of attenders perceived having increased their sport and physical activity levels, and 23.5 percent stated this increase was influenced by attending the 2018 Women's Hockey World Cup. Nevertheless, 66 percent of post-event attenders did not increase their participation, and 10.6 percent stated the major event had no influence in their increased participation. Data suggests that attendance at the 2018 Women's Hockey World Cup had a positive contribution towards increased participation for a small percentage of attenders, however, overall the effect was not prevalent for the attenders of the post-event sample.

Attribution of the inspiration effect to an event has been highlighted by Ramchandani et al (2017a) as an area of limitation in the existing literature. As suggested by Downward and Rasciute (2010) and Ramchandani, Davies, Coleman, Shibli and Bingham (2015), it is very difficult, if not impossible, to

attribute causality of the inspiration effect to a specific sports event. In order to account for this possible influential factor, the post-event attendees of the 2018 Women’s Hockey World Cup were asked if they had attended another major sporting event since the Hockey event, and an estimated 68 percent stated they did not (see table 5.25). There is a relationship between attendance at other major sporting events for the different age groups, and this is statistically significant: $\chi^2=9.519$, $p=0.049$, $p<0.05$.

Table 5.26 below illustrates the percentage of attendees who have attended other major event(s) and felt inspired as a result of such attendance.

Table 5.26 – Post-event sample: inspiration from attendance at other major sports events (n=15)

Post-Event (n=47)		Age Groups					Total
Attendance at other major sports events	Inspiration effect	16-25	26-35	36-45	46-55	56+	
Yes (n=15)	Yes	100%	0.0%	33.3%	80.0%	20.0%	46.7%
	No	0.0%	0.0%	67.7%	20.0%	80.0%	46.7%
	Don’t know/can’t say	0.0%	100.0%	0.0%	0.0%	0.0%	6.7%

From a total of 47 post-event participants, only 32 percent (n=15) of these attended another major sporting event. As seen by table 5.26 above, results are mixed since 46.7 percent stated they were inspired and 46.7 specified that they were not. Evidence seems to contrast with Ramchandani, Davies, Coleman, Shibli and Bingham (2015) who found that for the participants who had a net change in participation, 72.6 percent attributed this to attendance at other major sports event(s). However, since the sample size is considered very small, results may only provide a possible indication of any potential effect. Nevertheless, results highlight the difficulty in attributing causality to an event.

5.3.4 Intention

Intention to increase current levels of sport and physical activity was further measured in the post-event sample in order to measure any differences as a result of attending the hockey event. The relationship between the different age groups and intention to participate in sport and physical activity is not statistically significant ($p > 0.05$). Additionally, there is no statistically significant difference at the $p > 0.05$ level for the group means of intention for the five age groups: $F(4, 40) = 2.5$, $p = 0.272$. However, evidence points to the young attenders aged 16-25 having a positive attitude towards the behaviour pre-event (see table 5.25 above).

5.3.5 Theory of Planned Behaviour

5.3.5.1 Perceived Behavioural Control (*Perception of Ability*)

The perceived ability of the attenders in the sample was only measured during the event, since 90.7 percent of the attenders in the during-event sample measured in the medium to high side of the self-esteem spectrum. It is highly improbable that active attenders (84.5 percent) with confident to very confident levels in ability (90.7 percent) would have a significant drop in overall confidence levels of ability.

5.3.5.2 Subjective Norm, Past Experiences and Attitude Towards the Behaviour

Following the during-event measurement of the subjective norm, attitude towards the behaviour and past experiences, post-event testing was conducted in order to measure any possible changes. The association between the different age groups and the 'subjective norm' is statistically significant ($p < 0.05$, $p = 0.023$). Attenders in the post-event sample generally agreed or strongly agreed to having both a previous positive experience in Hockey and general sport and/or physical activity, along with feeling the desire to participate. Nevertheless, attenders aged 26-35 in the sample mostly agreed (55.6 percent) to feeling social pressure, whereas in comparison, attenders aged 16-25 and 46-55 generally disagreed or strongly disagreed. 55.6 percent of 26-35-year olds in the post-event sample 'agreed' to feeling social pressure. Evidence indicates a mixture of evidence in relation to social

pressure, however, 83.3 percent of young attenders (16-25) in the post-event sample strongly rejected feeling any social pressure, which comparatively decreases in scores with an increase in age.

There is no statistically significant difference at the $p < 0.05$ level for the group means of 'past behaviour', 'subjective norm' and 'attitude towards the behaviour', for the different age groups of the post-event sample. However, due to the low numbers in the post-event sample ($n=47$), it is difficult to achieve any significance.

5.3.6 Stages of Change

The engagement of the post-event attenders in relation to sport and physical activity participation is illustrated in table 5.27 below.

Table 5.27 – TTM (Stages of Change) post-event by gender and age groups

Post-Event (n=47)	Non-Active			Active	
	Pre-Contemplation (No sport in last 4 weeks & no intention to increase)	Contemplation (No sport in last 4 weeks & intention to increase)	Preparation (<30 min/week & no intention to increase)	Action (30-149min/week)	Maintenance (150+min/week)
Male		50%		50.0%	47.4%
Female		50%		50.0%	52.6%
16-25				16.7%	28.9%
26-35				33.3%	18.4%
36-45				16.7%	10.5%
46-55				16.7%	28.9%
56+		100%		16.7%	13.2%

There were no post-event attendees who were in the pre-contemplation and preparation stages (table 5.27). However, 100 percent of post-event attenders in the contemplation stage were aged 56 and over. Nevertheless, the post-event sample consisted of a limited number of attenders ($n=47$), hence the reason for some empty cells. Results based on a limited post-event sample indicate that active attenders from the during-event sample have largely remained active. Whilst this highlights a positive attitude and behaviour

towards sport and physical activity participation, it does not show changes in behaviour from non-active to active. Further research would have to be conducted with a significantly larger post-event sample, to be able to present accurate conclusions.

5.3.7 Processes of Change and Decisional Balance

Evidence highlights that in relation to both the processes of change and the decisional balance, the different age groups largely ‘agreed’ or ‘strongly agreed’. However, there is no significant association between the processes of change and decisional balance and the different age groups ($p > 0.05$). Thus, emphasising that the attenders in the post-event sample had a generally positive attitude towards sport and physical activity participation.

5.4 Matched Pairs

5.4.1 Sport and Physical Activity Participation

A key objective of this PhD study is to measure actual attitudinal and behavioural change, thus a measurement of the levels of the 47 attenders who responded to both the during and post-event surveys is essential.

Table 5.28 – Objective and research questions related to behaviour change

Objective	To measure actual attitudinal and behavioural changes of young people aged 16-25, using the EIBC Model.
Research Question	To what extent does the attendance at the 2018 Women’s Hockey World Cup contribute towards the attenders’ behaviour change in relation to sport and physical activity?

When comparing both during and post-event samples, evidence shows there was no statistically significant increase in sport and physical activity participation from during-event ($M = 1.17$, $SD = 0.380$) to post-event ($M = 1.06$, $SD = 0.247$), $t(46) = 1.95$, $p > 0.05$ (two-tailed). The mean decrease towards ‘1’ (1 represents ‘yes’ in the survey), means that for the 47 participants in the test, there was an increase in sport and physical activity from ‘no’ to ‘yes’ responses between the during and post-event surveys. Nonetheless, whilst there is no significant increase, a positive change in behaviour is indicated, which the event effect may have potentially acted as a catalyst for such

outcome. Whilst this may suggest a possible causal relationship, other factors need to be considered.

The frequency scores pre/during and post-event are weakly and positively correlated ($r=0.391$, $p<0.01$). On average, attenders of the Women's Hockey World Cup reported a higher frequency (number of days per week) of participation for the during-event sample ($M=3.13$, $SE=0.308$) than the post-event sample ($M=3.02$, $SE=0.203$), $t(46)=0.360$, $p>0.05$ (reduction of approximately 0.11). However, this is not statistically significant, ($p=0.720$, $p>0.05$).

In relation to the participation levels (amount of time each day), attenders showed an increase in the post-event sample ($M=2.36$, $SE=0.165$) in comparison to the during-event sample ($M=2.68$, $SE=0.114$), $t(46)=-1.98$, $SE=0.161$ (increase of approximately 0.32). However, this increase was not significant ($p=0.054$, $p>0.05$). The participation scores pre/during and post-event were weakly and positively correlated ($r=0.379$, $p<0.01$). Ultimately, there was a slight increase in the amount of time participated in sport and physical activity per day, but a slight reduction in the number of days per week.

Table 5.29 below shows a slight decrease in the mean participation for both 'other sports' and 'physical activity', whilst participation in 'Hockey' remained the same. Nevertheless, Hockey participation between both samples is significantly positively correlated: $r=0.830$, $n=47$, $p<0.01$, $p=0.000$.

Table 5.29 – Matched paired samples test: type of participation (n=47)

Matched Pairs (n=47)		Paired Samples Test	
Number	Type of Participation	During-Event (Time1)	Post-Event (Time2)
1	Hockey	M = 1.51, SD = 0.505	M = 1.5106, SD = 0.505, t (46) = 0.000, p>0.05 (two-tailed)
2	Other Sport(s)	M = 1.51, SD = 0.505	M = 1.575, SD = 0.499, t (46) = -0.724, p>0.05 (two-tailed)
3	Physical Activity	M = 1.23, SD = 0.428	M = 1.34, SD = 0.479, t (46) = -1.401, p>0.05 (two-tailed)

Ultimately, there is no significant behaviour change in relation to sport and/or physical activity participation between the during and post-event matched pairs samples. As a result, evidence indicates that attendance at the 2018 Women's Hockey World Cup, did not have a significant effect on the samples' post-event behaviour change. However, Hockey participation was the most popular form of participation across both samples.

5.4.2 Recreation Participation

A paired-samples t-test was conducted to examine the impact of attendance at the 2018 Women's Hockey World Cup on participation in recreational activities (during and post-event). There were no statistically significant increases in recreational activities participation.

5.4.3 Reasons for Participation

Evidence shows that there was no statistically significant difference between reasons one to seven chosen by the attenders at the event in comparison to post-event. However, the option 'Other' showed a significant difference between both points of measurement. This is due to the fact none of the attenders of the post-event sample stated another reason outside of the list provided. Additionally, evidence indicates that reasons one to seven measured in 'Time 2' remained largely the same as in 'Time 1' across the different age groups. Nevertheless, as found by Allender, Cowburn and Foster (2006), sport and physical activity participation is primarily motivated by enjoyment and the development and preservation of social support networks.

The results indicate that the reasons highlighted by the event-based sample in section 5.2.2, may be regarded as potentially influential in sport and physical activity participation. However, as Jackson (2005) suggested, sport participation is influenced by an individual's tastes and preferences. Thus, reasons for participation may or may not change over time.

5.4.4 Intention

There was no statistically significant increase in sport and physical activity participation from during-event ($M = 1.58$, $SD = 0.543$) to post-event ($M = 1.58$, $SD = 0.499$), $t(44) = 0.000$, $p > 0.05$ (two-tailed). Evidence suggests that

intention to increase or maintain sport and physical activity participation is very similar between the during and post-event samples. However, none of the attenders in the post-event sample (n=47) intended to reduce their participation levels. Therefore, whilst results suggest a very small but insignificant increase in 'intention', the fact that no post-event participants intended to reduce their levels of sport and physical activity could be regarded as a potential positive event effect. Nevertheless, post-event sample size is considerably smaller in comparison to the during-event sample, so larger samples would be required to further test the effect.

5.4.5 Theory of Planned Behaviour

5.4.5.1 Subjective Norm, Past Experiences and Attitude Towards Behaviour

The attenders in general reported having a very positive previous sport and physical activity experience, and this was higher for the attenders over 26 years old. However, they had double the number of attenders neither agreeing nor disagreeing with the previous process of change. Figure 5.6 illustrates that 'social pressure' is not a negative factor for the attenders, meaning they do not feel social pressure to participate in sport and physical activity. However, attenders aged over 26 responded considerably higher than younger attenders for 'neither agree nor disagree' and 'agree', potentially indicating that older people are both indifferent to any social pressure or they do feel some pressure by friends and family.

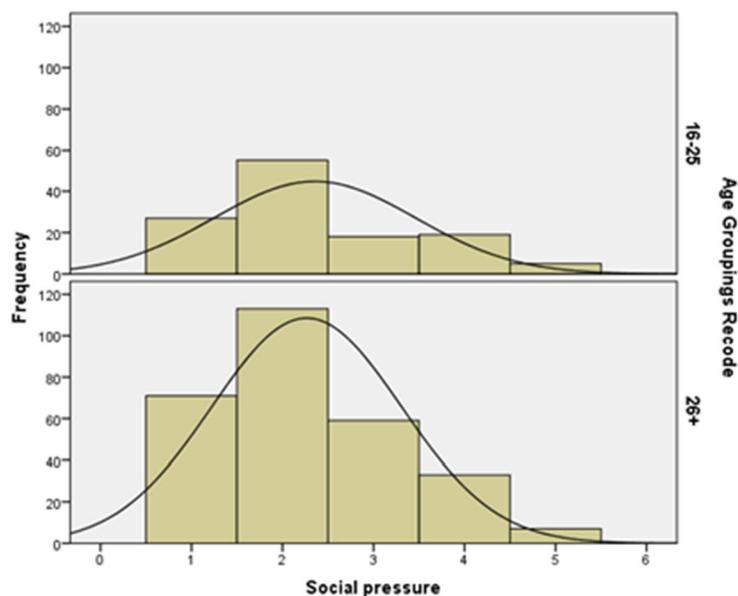


Figure 5.6 - Bar chart of Social Pressure (normal distribution curve)

The data further highlights that both 16-25-year olds and 26 and over, feel the desire to participate in Hockey and general sport and physical activity, which supports research stating that major sports events attenders are active and/or have a positive attitude towards sport and physical activity.

5.4.6 Processes of Change and Decisional Balance

Scores for the post-event sample for both the Social Liberation and Decisional Balance were higher in comparison to the during-event sample. There is a statistically significant difference between the values of the during and post-event for both Social Liberation ($Z = -2.605$, $p < 0.05$; $p = 0.009$) and Decisional Balance ($Z = -2.066$, $p < 0.05$; $p = 0.039$). Thus, the attenders of the Women's Hockey World Cup reported to have an increased awareness of free recreational activities in their community that do not involve exercise, in addition to believing that the benefits of participating in sport and/or physical activity outweigh the negatives/costs.

Due to the previously mentioned limitation a separate analysis was conducted between 16-25-year olds, and 26 and over. Attenders in the samples stated they were able to generally avoid temptations to be inactive, and as a result add new reminders to do active alternatives, however this was highest amongst those aged 26 and over, and the difference is statistically significant ($p < 0.05$). This could mean that the younger attenders of the sample are not as likely to avoid temptations to take part in inactive activity in comparison to the older demographics in the sample. There is an association between the age groups and 'past experiences' and 'stimulus control', and these are both statistically significant ($p < 0.05$). Nevertheless, attenders aged 26 and over responded 'neither agree nor disagree' approximately two times more in relation to 16-25-year-olds.

Attenders responded positively (agree or strongly agree) to recalling information regarding the benefits, consequences and opportunities of participating in Hockey and general sport and physical activity, however there is no statistically significant difference between ages 16-25s and 26 and over

($p > 0.05$). Thus, attenders are generally good at recalling all of the necessary information in order to make a behavioural decision. Additionally, both age groups generally agree that their participation is beneficial to the people around them and the environment ($p > 0.05$). In terms of environmental opportunities (Social Liberation), attenders felt differently in regards to being aware of free recreational activities in their community which do not involve exercise, however, the representation of the scores are proportionately similar between 16-25s and, 26 and over. It can therefore be suggested that not all attenders are aware of what else is on offer on a recreational level that does not involve sport and physical activity. Both age groups 'agreed or strongly agreed' that participating in Hockey and general sport and physical activity positively impacts on their physical image. Therefore, attenders of the samples are more likely to participate in sport and physical activity as they believe it benefits their physical appearance towards others, possibly even contributing towards increased self-esteem. In relation to reacting emotionally, the majority attenders responded, 'neither agree nor disagree', however responses were fairly even between 'neutral' and 'agree' for the 16-25-year olds. This suggests that young people react more emotionally to sport and physical activity in comparison to those over the age of 26. However, there is no statistically significant difference, therefore this change is only small. Therefore, it can be suggested that the attenders of the event-based and post-event samples of the 2018 Women's Hockey World Cup have a positive attitude and awareness in relation to sport and physical activity. This indicates that attenders are most likely to move up the different stages of the TTM as a result of having a positive attitude, however, this does not prove a causal relationship.

In respect to behavioural process differences between ages 16-25 and over 26, there is no statistically significant difference for substituting inactive/unhealthy activities for sport and physical activity participation ($p > 0.05$). The majority of both groups 'agreed' with this process of change, however, older attenders (26 and over) also responded in a considerable proportion to 'disagree' and 'neither agree nor disagree'. This suggests that young people are more likely to substitute a sedentary or unhealthy behaviour for a positive behaviour such as sport and physical activity participation. Furthermore, the attenders 'agreed' or 'strongly agreed' to believing they have

the support of friends and family when participating in sport and physical activity. There is no statistically significant difference between both age groups, which reflects the fact the majority of attenders responded in a similar manner. Self-Liberation (ie. Commitment towards sport and physical activity) was also very positive amongst both age groups. These behavioural processes indicate that attenders have a very positive outlook on their social support network and are highly committed towards participation, which ultimately act as facilitators of behaviour change. However, attenders generally responded neutrally to rewarding themselves if successful at controlling inactive/unhealthy urges. This potentially suggests that self-rewards are not important or a common process for the majority of the older attenders.

5.5 Leveraging

One of the key objectives of this PhD involved looking at the extent to which event stakeholders implement strategies which aim to increase sport and physical activity participation (table 5.30). However, in order to accurately answer this objective, the attenders of the 2018 Women’s Hockey World Cup were asked if they had received any information concerning opportunities to get involved in sport and physical activity; when did they receive such information (before the event, during, or both) and what type of information they received.

Table 5.30 – Objective and research question relating to leveraging

Objective	To examine and provide insights as to the opportunity provided by stakeholders to lever major sport events.
Research Questions	What are the leveraging strategies implemented by the 2018 Women’s Hockey World Cup stakeholders to increase participation in sport and physical activity?

Chalip (2014) highlighted the importance of leveraging events in order to successfully maximise the probability of long-term benefits to the host nation and its community. Weed, Coren, Fiore, Wellard, Chatziefstathiou and Dowse (2012) and Potwarka and Snelgrove (2013) go further by suggesting that event leveraging is based on a combination of an implementation of interventions designed to promote sporting opportunities and an influence of staging an

event, will more likely result in increased participation levels. Thus, by effectively promoting the event and other connected activities, there is an increase in the maximisation of the impacts (which could include sport and physical activity participation). Nevertheless, research has found that there is no inherent legacy as in order for there to be one, proactive leveraging through strategy and investments needs to occur (Chalip, 2006; Smith & Fox, 2007; Weed, Coren, Fiore, Wellard, Chatziefstathiou and Dowse, 2012). Fairley et al (2016) found that a sport event may serve as a catalyst for the development of strategies to successfully achieve legacy outcomes.

Nevertheless, leveraging in terms of changes in sport and physical activity participation of major sporting event attenders, involves analysing key indicators of behaviour change which include both the affective and cognitive mechanisms. Potwarka, Drewery, Snelgrove and Havitz (2017) concluded that there is a scarcity of empirical evidence regarding behaviour change mechanisms, which may inform the development of leveraging initiatives to sports events. According to Ramchandani, Coleman and Christy (2019) there is a scarcity of evidence related to the leverage of event-induced sport and physical activity participation. Research undertaken by Taks et al (2014) and Misener, Taks, Chalip and Green (2015) in relation to major sports events highlights the importance of 'leveraging' in order to realise sport participation outcomes. Both studies found a distinct lack of leveraging strategies and tactics, in addition to various missed opportunities by event organisers and other key stakeholders to stimulate sport participation.

Potwarka, Snelgrove, Drewery, Bakhsh and Wood (2019) explored the possibility that exposure to an event leveraging initiative, specifically a voucher to participate in an introductory program for free, might moderate intention-behaviour relationships. They concluded that exposure to an event leveraging initiative can stimulate participation in a new sport. Intentions to participate in track cycling formed because watching competitions was a significant positive predictor of track cycling participation. However, irrespective of the whether an individual received a voucher, if they had stronger intentions to track cycle, then they were significantly more likely to participate in track cycling.

The key stakeholders of the 2018 Women’s Hockey World Cup were England Hockey and UK Sport; however, England Hockey was the primary stakeholder. Whilst England Hockey organised the event and had a daily participation in different areas (including Fan Central), UK Sport played a key role in terms of the attribution of funding and were also present at Fan Central showcasing different sports such as cycling, netball, volleyball and triathlon. Furthermore, according to England Hockey, Sport England did not have any areas or rights to activate at the Hockey World Cup.

Members of the 2018 Women’s Hockey World Cup event’s team were interviewed, and as stated in section 4.9, the aim was to collect evidence regarding any leveraging strategies that might have been implemented at the event. A thematic analysis was carried out in Chapter Four, section 4.9, which highlights the key themes from the stakeholder’s interviews. Whilst there are several different themes standing out from the data, it is evident where the focus of the event was placed and what the implemented leveraging strategies were throughout the pre, during and post-event phases of the 2018 Women’s Hockey World Cup. Table 5.32 below provides a clear map between the key themes identified and the relevant data pertaining to the stakeholder’s interviews.

Table 5.31 - Key themes and relevant data (including the specific participants)

Key Theme	Sub Theme	Interviewee	Quote
Promotion of Sport and Physical Activity	Promotion of Sport and Physical Activity	England Hockey Interviewee 1	“we don’t put an awful lot of resources into promoting under physical activity as such...”
			“we want mass participation and mass physical activity participation, but ultimately our focus is on Hockey and we don’t have the resource, you know, to do otherwise”
			“...so that is really a no about generic sport , apart from UK Sport who obviously used their opportunity at the World Cup to leverage other sports...”
Leveraging	Leveraging (UK Sport)	England Hockey	“...apart from UK Sport who obviously used their opportunity at the World Cup to leverage other sports”

		Interviewee 1	“So, on a daily basis we had different sports, we had cycling, we had netball, we have volleyball, athletics and other sports that came effectively to use that space to engage with Fan Central on that day”
		England Hockey Interviewee 2	“I think UK Sport actually were showcasing other ways to get active and that sort of thing”
			“I know that UK Sport had a sort of marquee if you like at the event...”
	Leveraging (Sponsorship)	England Hockey Interviewee 1	“So it was very information focussed at the event, it was promoting our Adidas brand and partners that we had onboard for the event probably ahead of any more information stuff if I’m being completely honest”
			“So, Vitality, Jaffa, Adidas and we tried to leverage their brand as well to our hockey family, again to try and infer that positive attitude change to the sport using their brand ”
			“...there were special discounts applicable to these who purchased tickets for the World Cup ”
			“... get opportunities to speak to our members to promote their goods and services in line with our own strategic objectives as well”
	Inspiration Effect – Olympic Gold Medal Leveraging	UK Sport Interviewee 1	“So, making use of the fact that they now have an Olympic Gold medal winning team and they’ve got all these major events...which helps Hockey break into the mainstream alongside your Rugby’s, your Football’s, your Cricket’s and you know, the sort of sports that roll off the top”
	‘Your World Cup’ Campaign	England Hockey	“...so we gathered a number of resources, our Development team spent time within going to clubs across England to prepare them for the World Cup in a number of different ways so that would be things

		Interviewee 1	like ensuring they had their websites up-to date, that they were either promoting in the World Cup through sharing the matches on television at the clubs, put on additional coaching sessions and ‘come and try it’ sessions if you will”
			“clubs and participation too that we used”
			“...that was being run alongside the planning of the event”
			“...the aim was to empower the clubs to harness the World Cup, to help increase their own club life and participation of Hockey within their club”
			“Especially from the ‘Your World Cup’ campaign which ran in tandem with that, and I know we produced...the ‘Your World Cup Guide’
		England Hockey Interviewee 2	“...women sport, that was picked up in our club sessions...so alongside the ‘Your World Cup’ campaign that we ran...before and after the campaign, and obviously spoke to all the clubs to say...you know what we got this great opportunity here of a World Cup and we are hoping to see an increased demand like we did after London, like we did after Rio...you know and sort of to prepare clubs to sort of be ready to cater for that...”
	Fan Central	England Hockey Interviewee 1	“Fan Central was effectively the vehicle we used to drive that element of the event”
		England Hockey Interviewee 2	“In the Fan Zone we had our Relationship Managers, so we had our 11 Relationship Managers come in and you know, 3 or 4 county’s each across England...”
			“...in the Information HUB there, where they were sort of engaging with passers by and things like that

			and just... sort of chatting to fans and sort of capturing their engagement... "
		England Hockey Interviewee 3	"...if you want to play or get involved in the game elsewhere, that messaging we agreed as an organisation that we would focus on at Fan Central... "
			"...there was more work about trying to generate footwork through Fan Central, and capturing them there, than there was in the stadium, because they thought most people in the stadium would have picked it up and turned it away"
			" At Fan Central you just have more time to engage with people and give them that better experience and have the time to talk "
	Fan Central + Vitality Mile		"...the Vitality last mile focused around sending people out of their normal walking route from Stratford West Hill to the stadium...it was more about trying to get them to go a different way to Fan Central, instead of going the quick way... "
	Fan Central (Hockey Makers - Passport)	England Hockey Interviewee 1	"...targeted to children, was...we had the event passport...the hockey makers gave that out to attendees....or just to anyone who was coming to the Olympic Park or Fan Central , at the event, and within that there was a number of different activities for them to complete, so very activity based"
			"...it was actively encouraging people to take part in the various hockey activations that we set up on event "
	Fan Central (Hockey Zone)	England Hockey Interviewee 1	"... number of different hockey activations such as we installed a professional level small sided hockey pitch, where we could not only host things like play but also different elements of hockey to showcase a number of different products "

			<p>“...that was to try and draw the spectators in to have some fun, but also the volunteering workforce on the ground level were tasked with and supported by our staff as well to educate the different people in the different ways that they could play hockey after the event, and the clubs closest to them, the facilities closest to them”</p>
		England Hockey Interviewee 3	<p>“...because we were right next door to the Activity Area where people could go and have a go, they could actually pick up a Hockey stick and have mini games, go do dribbling or shooting games and that side of things...it was the right area for people to engage and have a go”</p>
			<p>“...if we were on the retail side, no one would’ve come in because they would have just been walking into the tent and go ‘well we can’t buy anything, we’ll walk out’”</p>
	Fan Central (You’re the Umpire)	England Hockey Interviewee 1	<p>“...we had a set of screens and iPads and we showed the members of the public some footage of a hockey match, and then gave them a decision to make on what the umpire would do in that situation, and that was a way to not only...you have a bit of fun as well, but also engage people and we bought umpires down who were working on the event to speak to the public and give them insights and knowledge, and I know that we then linked those people to our website after the clips to learn more about umpiring and how to get involved”</p>
		England Hockey Interviewee 3	<p>“...have an engagement piece in the Fan Central area which allowed people to question themselves and make decisions as if they were the umpire”</p>
			<p>“...we had three iPads on the go where we had a series of three or four clips where we were asking people to spend no more than two minutes there, and they would press play on the iPad and they would watch something in real time, they would</p>

			<p>then be asked what decision they would make as an umpire, so they would have 10 seconds to make it, then the programme would kick back in by showing them what actually happened, what the umpire gave and the reasons behind”</p>
			<p>“At the end of that, they would have a landing page right at the end of the video with a QR code on there, which allowed people, well...it provided people with the opportunity to register on the Hockey HUB”</p>
			<p>“Where people could learn more about the formal process, because the educational piece for us was not saying ‘everyone has to become an umpire’ but it was more if we can get people to understand the rules...then they actually get more enjoyment out of the game”</p>
			<p>“So, its highlighting that there’s other ways of staying involved and getting to the top elite level of our game, without necessarily being very good with a stick in your hand”</p>
			<p>“,,the videos with the computer programs logged just over 33 thousand plays”</p>
			<p>“...the awareness that we’ve had through the Fan Central area during the World Cup, and I think the other thing as well is that now that the invention of the video umpiring in our game and the way that the game has changed from 2 periods of 45 internationally to 4 periods of 15, there is more focus on the umpires on TV...because the clock gets stopped at every penalty corner, the decision gets analysed even by BT or whoever the broadcaster is, doesn’t matter whether the decision is right or wrong, the umpire is becoming more of a focus, just because of the way that the game has now changed”</p>

	Passport – Coaching and Officiating		“In the passport, on the back page there was the written website if you like for people to find out about how to get involved in coaching as well as umpiring and officiating”
	Passport	England Hockey Interviewee 3	“Over the three weeks of the World Cup, we had that as a physical tool that we were handing out to spectators who were coming through Fan Central, we had it shared with the activity that was going through the ‘Your World Cup Campaign’ that the development team were running within clubs, and then we had the actual ‘You’re the Umpire’ there on the iPad as an additional presence”
	Fan Central + Arena (Info Stations)	England Hockey Interviewee 1	“So, there was one info station on Fan Central and one in the Arena”
	Arena	England Hockey Interviewee 3	“...in that stadium goal, it was all about getting the mood right, so they are watching the game of Hockey, trying to upsell the placard board, or the signature sticks and all that side of things...”
			“...we used the main venue slightly differently...we used the main venue for was the hosting of development groups, of groups of umpires from around the country...where they have either bought tickets or we were letting them onto our development group, so for the second Saturday of the tournament...we had 30 of our top umpires in, where we had the FIH officials manager, myself and the volunteering head of umpiring”
			“Not directly for umpiring because that time on the big screens was more for sponsors who paid for it and then we also linked in the participation side around going back to Hockey or finding your local club and giving it a go”

	Arena - Umpiring	England Hockey Interviewee 3	“...the only thing umpiring wise we did which was a little bit different which was the...we took headshots of the actual umpires in the tournament...so before the walkout their headshots would come up on the screen before the teams were introduced saying ‘these are the guys that will be looking after your game today’”
	Umpiring	England Hockey Interviewee 1	“we obviously try to grow our umpire, the pool of people that umpire hockey, because we need them just as much as we need people playing it as well”
		England Hockey Interviewee 2	“...we also had an umpiring day, so umpires and technical officials...”
		England Hockey Interviewee 3	“...what the World Cup has done for us in the umpiring world is support the messaging of what we have been basically working with clubs around the last 3 years...”
	Clubhouse (Participation Team)	England Hockey Interviewee 1	“So, it was a space which had, which we could host things like conferences, seminars, lectures, seats, a television, a bar, and then with that match tickets associated with that particular session...”
			“...that was speaking to our strongly attached clubs, schools and other groups which was led by the participation team”
		England Hockey Interviewee 2	“...we hosted...hmm, different groups of people in the Clubhouse, in a number of capacities, so, some of that was having conferences, and sort of workshops to do presentations and that sort of things across predominantly our development department”
			“...about 90 volunteers from our clubs to come along where our development team here presented

			to them and sort of idea sharing, good practice, that kind of thing”
			“...the Clubhouse is more to try and increase our engagement with these clubs basically and then the individuals...predominantly, people in the Clubhouse are people who already play our sport if that makes sense”
			“...we also had Young Leaders...that was aimed at under 18s within clubs...”
			“...we had a couple of members from our board as well...Sally sort of pitch an idea to the kids, and then in tables in groups they had to then come up with key ideas that they think could help grow the sport...”
			“...the Women’s Sports Trust in partnership with Nielsen...they delivered a pitch...they had a load of FTSE 100 companies in and things like that...and that was aimed at promoting Women’s Sport basically...sort of showcasing it at and taking advantage obviously of the World Cup...”
			“...sort of using this Clubhouse as our kind of...as a...our engagement tool really”.
			“...the Women’s Sports Trust help, that was sort of commercial meetings, and that was in terms of the commercial aspect...”
Healthy Living (Hockey)	England Hockey Interviewee 1	“...evidence of flyers and emails and stories that we’ve done and how we’ve used Hockey to promote a healthy living and the health benefits associated with that so...”	
Relationship Managers	England Hockey	“...our Relationship Managers were directly advertising Hockey...”	

		Interviewee 2	"...Relationship Managers, so in their patches they will speak to individuals and groups and things like that where they might be playing informally..."
	Engagement (Active People)	England Hockey Interviewee 2	"Yeah...so, it was predominantly sort of engaging with participants already taking part... "
Event Legacy	Legacy and Participation Outcomes	UK Sport Interviewee 1	"So, legacy and participation outcomes weren't targeted at those areas because effectively this event pre-dated this strategy...and we didn't require the events mid-planning to adjust their planning to meet the new strategy, because that wasn't what their funding was given to them for "
			"...the overall aim was trying to get more people playing Hockey and get more people to become fans of the sport..."
			"...the objectives of them were to get more people playing Hockey and primarily local people to Lee Valley, and also to try and increase the fan base of the sport nationwide..."
			"...and that is both targeted at both adults and young people"
			"So that included a 'schools programme' and they engaged with about 160 schools over the four years and as part of that they...a lot of workforce development, so I think they trained up 573 teachers and coaches locally in the area to support that... it is quite a significant number"
			"They have also been establishing new clubs locally and they did a World Cup Festival, so that happened during school time. 55 local schools attended that with some of the England Hockey players and that was the biggest event out of 50 local community events, which ranged from taster activities

			to promotional evenings and meet and greets with England Hockey players”
	Legacy Plans – Commercial Strategy	UK Sport Interviewee 1	“There are always elements to these legacy plans that do have a link back to the commercial strategy of the events as well”
			“...the 6 strategy areas they created under this buy and grow, was entitled ‘inspire a generation’, ‘supporting schools to deliver hockey’, ‘ offering more ways to play’, ‘setting more clubs’, ‘ celebrating and supporting people’...that was very much around volunteers and officials...and another part of the strategy was during the event itself...”
			“...so that was club central, and it was also about free ticket giveaways to school groups and clubs and that sort of thing...”

The table 5.31 above highlights three key themes (promotion of sport and physical activity, leveraging and legacy, along with 22 sub themes have been identified from the four stakeholders’ interviews. The main key theme is ‘leveraging’, which highlights the strategies employed for the event. However, ‘event legacy’ was identified as a theme from the qualitative data, whereby the aim was *“to get more people playing Hockey and get more people to become fans of the sport...”* (table 5.31, UK Sport Interviewee 1). As such, it would be reasonable to assume that both England Hockey and UK Sport would focus part of their resources to leverage the event and achieve the overall aim. As stated by Taks, Misener, Chalip and Green (2016) for leveraging to be successful, a strong commitment of the event stakeholders needs to be in place, including clear goals.

The leveraging initiatives implemented for the 2018 Women’s Hockey World Cup included the ‘Your World Cup’ campaign (pre, during and post-event), and activities at Fan Central (during-event). Table 5.33 below provides an overview of the leveraging initiatives, their location and time period.

Table 5.32 – Overview of the leveraging initiatives by location and time

Venue / Location	Leveraging Initiatives																				
	'Your World Cup' Campaign – Club Guide			Passport			Hockey Activations			UK Sport - Showcasing of other sports			Clubhouse			Refereeing & Officiating			Coaching & Volunteering		
	Pre	During	Post	Pre	During	Post	Pre	During	Post	Pre	During	Post	Pre	During	Post	Pre	During	Post	Pre	During	Post
Lee Valley Stadium (Arena)	✓	✓	X	X	X	X	X	X	X	X	X	X	X	✓	X	X	X	X	X	X	X
Vitality Mile	X	✓	X	X	✓	X	X	✓	X	X	X	X	X	X	X	X	✓	X	X	X	X
Queen Elizabeth Olympic Park (Fan Central)	✓	✓	X	X	✓	X	X	✓	X	X	✓	X	X	X	X	X	✓	X	X	✓	X
Hockey Clubs	✓	✓	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	✓	X	X

As can be seen from table 5.32, there were a variety of initiatives which were incorporated into the delivery of the event. Whilst the number of these initiatives may stand out at first glance, the location and timings of their delivery were somewhat limited. Such limitations may potentially impact on the effectiveness of leveraging strategies.

Table 5.32 highlights the 'Your World Cup' campaign as the main initiative implemented by England Hockey, which also ran in tandem with the planning of the event, which aimed to *"inspire clubs to seize the opportunity of hosting the next biggest event after the Olympics, a World Cup on English soil"* (Your World Cup, 2018, p7). Thus, the objective of this initiative was to capitalise on the increased visibility of the Women's Hockey World Cup and consequently, share a variety of tools, resources and support with hockey clubs (Your World Cup, 2018). However, these were targeted solely at hockey clubs nationally. This meant the leveraging strategy was limited in scope as it was not directed at the attendees of the Hockey World Cup. Table 5.32 highlights this initiative as a key strategy implemented at the event. As stated by England Hockey Interviewee 1, the campaign provided the associated clubs with,

"different online resources, through publishing some equipment as well which clubs could buy off us, and obviously make sure that we contacted all the clubs to put on smaller events during the World Cup" (Appendix H – England Hockey Interviewee 1).

However, as can be seen from table 5.31, the 'Your World Cup' campaign was mainly focussed on Hockey clubs and providing them with online resources and guidance as to ways in which they can increase their number of participants. This is evident from England Hockey Interviewee 1 who stated that,

"...we gathered a number of resources, our Development team spent time within going to clubs across England to prepare them for the World Cup in a number of different ways so that would be things like ensuring they had their websites up-to date, that they were either promoting in the World Cup through

sharing the matches on television at the clubs, put on additional coaching sessions and 'come and try it' sessions if you will" (table 5.31, Your World Cup Campaign).

Whilst it included taster sessions which may be appealing to non-active and/or non-hockey participants, the campaign was limited in its scope. This initiative also placed emphasis on women's sport grassroots as England Hockey stated that it was *"picked up in our club sessions...so alongside the 'Your World Cup' campaign"* (table 5.31, England Hockey Interviewee 1, Your World Cup Campaign), which ran pre, during and post-event.

The 'passport' initiative was implemented throughout the Vitality Mile (Appendix N). The aim of this initiative was to primarily provide children with tasks to complete, which also contained the relevant links to the England Hockey website and subpages (see table 5.31). As England Hockey Interviewee 1 stated that they had an activity targeted at children, *"...we had the event passport. So, we gave that out...the hockey makers gave that out to attendees...or just anyone who was coming to the Olympic Park or Fan Central at the event"* (table 5.31, England Hockey Interviewee 1, Fan Central - Hockey Makers Passport). This involved *"...a number of different activities for them to complete, so very activity based"*. However, this was a way of encouraging people to take part in the various Hockey activations, and not necessarily about providing children with 'sign posting' towards increasing sport and physical activity participation. Nevertheless, this evidence highlights the limitation of the areas covered, since the main arena which hosts the hockey games is not covered by these other initiatives, but also of the rationale behind their usage. Lockstone-Binney et al (2016) conducted research on the Sydney 2000 and London 2012 Olympic Games and found a lack of legacy funding before and after the event. This evidence suggests that dedicated plans and programs need to be developed in order for event leveraging, which are appropriately resourced and structured to capitalise on opportunities offered by the event.

Quantitative data shows that 69 percent of the attenders from each of the different age groups did not receive any type of information about potential opportunities for participation in sport and/or physical activity. However, approximately 43 percent of 16-25-year olds reported receiving information either before, during or both. In the case of 26-35-year olds, around 24 percent of attenders stated they received before event (see table 5.34 below).

Table 5.33 – Leveraging pre and during-event by age groups (n=407)

Age Groups	Leveraging				
	Yes (Before)	Yes (During)	Yes (Before & During)	Yes (Total)	No
16-25	24.2%	8.1%	10.5%	42.7%	57.3%
26-35	20.5%	1.6%	8.2%	25.8%	69.7%
36-45	8.0%	4.0%	14.0%	26.0%	74.0%
46-55	13.0%	1.4%	7.2%	21.7%	78.3%
56+	11.9%	4.8%	2.4%	19.0%	81.0%

There is an association between leveraging and the different age groups, with younger people (16-25s) reporting the highest percentage (42.7 percent) for having experienced any type of leveraging from the Women’s Hockey World Cup. Furthermore, effective leveraging decreases with an increase in age, as shown by the table above, 19 percent of the 56 and over age group answered positively to leveraging. Nevertheless, approximately 57 percent of the 16-25-year olds did not experience any leveraging, with this gradually increasing to the highest level for the 56 and over age group (81 percent). Thus, it could be suggested that attenders of the 2018 Women’s Hockey World Cup mainly did not experience any form of leveraging, however, those who did were primarily between 16 and 25 years of age. This was shown to be statistically significant: $\chi^2=14.185$, $p<0.01$, $p=0.007$.

In addition, the point in time where participants experienced this leveraging was higher before the event. 24.2 percent of 16-25s reported to have experienced

leveraging before the event, with 11.9 percent for those over the age of 56 (approximately two times higher for 16-25s). This was shown to be statistically significant: $\chi^2 = 23.822$, $p < 0.05$, $p = 0.022$. However, five cells (25.0%) have expected count less than five. As a result, the age groups were transformed in order to reduce the error and increase the size of the age groups being tested (table 5.33 below). Furthermore, data highlights that attenders who participate in the showcased sport are more likely to experience leveraging relative to others who do not.

The attenders' responses suggest that young people (16-25) are more likely to experience leveraging in comparison to older attenders aged 26 and over (see table 5.34 below). Attenders aged 16-25 experienced approximately 17 percentage points more in relation to attenders aged 26 and over. There is a significant association between the age groups (16-25 and 26 and over) and the time which the leveraging was experienced, with it being prevalent 'before' attending the event (table 5.34). Leveraging pre-event had a 10-percentage points difference between both age groups, with the percentage being higher for the 16-25s. Additionally, a 17 percent difference was verified between the attenders who did not experience leveraging (57.3 percent and 74.2 percent) for both age groups.

Table 5.34 – Leveraging pre and during-event by age group (16-25 & 26+) (n=407)

Age Groups	Leveraging				
	Yes (Before)	Yes (During)	Yes (Before & During)	Yes (Total)	No
16-25	24.2%	8.1%	10.5%	42.7%	57.3%
26+	15.2%	1.8%	8.1%	25.8%	74.2%

From a total of 407 participants in the during-event sample, 30.7 percent (n=125) affirmed to have experienced leveraging before and/or during the 2018 Women's Hockey World Cup. Tables 5.35 and 5.36 below illustrates the breakdown of the different types of leveraging experienced by age group.

Table 5.35 – During-event sample type of leveraging experienced by age groups (n=125)

Age Groups	Leveraging		
	Opportunities for participation in Hockey	Opportunities for beginners	Sport programmes
16-25	65.4%	25.0%	53.8%
26-35	62.2%	32.4%	40.5%
36-45	71.4%	21.4%	21.4%
46-55	66.7%	46.7%	26.7%
56+	28.6%	0.0%	28.6%
Overall	63.3%	28.0%	41.6%

Table 5.36 – During-event sample type of leveraging experienced by age groups (n=125) (Continued)

Age Groups	Leveraging		
	Opportunities for participation in other sports	Opportunities for people already participating	Other
16-25	30.8%	21.2%	1.9%
26-35	32.4%	10.8%	0.0%
36-45	14.3%	0.0%	14.3%
46-55	20.0%	6.7%	6.7%
56+	42.9%	14.3%	0.0%
Overall	28.8%	13.6%	3.2%

There is no significant association between the different types of leveraging interventions and the different age groups ($p > 0.05$). Nevertheless, as seen from table 5.35 above, ‘opportunities for participation in Hockey’ was a key intervention in terms of the number of attenders in the during-event sample experiencing it. Additionally, the previously mentioned intervention was the highest amongst the

16-55 age range (see table 5.35). Furthermore, there is no statistically significant difference between the types of leveraging and the different age groups.

Leveraging strategies such as the 'hockey activations', 'UK sport stall', 'passport' and 'information HUB' (see table 5.32 above), were implemented at Fan Central and the Vitality Mile (the route between Stratford station and the Arena entrance). The Vitality Mile was *"...focused around sending people out of their normal walking route from Stratford West Hill to the stadium...it was more about trying to get them to go a different way to Fan Central, instead of going the quick way..."* (table 5.31, England Hockey Interviewee 3 - Leveraging). Thus, emphasising the importance placed on Fan Central as a leveraging mechanism. The 'hockey activations' were present at Fan Central, being the main location for all the extra activities surrounding the hockey matches at the Arena. These activations provided the spectators with an opportunity to get involved in hockey in a variety of ways other than standard hockey, as reported by England Hockey Interviewee 1,

"...that was to try and draw the spectators in to have some fun, but also the volunteering workforce on the ground level were tasked with and supported by our staff as well to educate the different people in the different ways that they could play hockey after the event, and the clubs closest to them, the facilities closest to them" (table 5.31, Fan Central – Hockey Zone).

The purpose as seen in table 5.31 was to increase awareness of the sport, in addition to provide participants with exciting new ways to participate and hopefully spark their interest in hockey. England Hockey Interviewee 1 referred to Fan Central and the use of the 'Passport' as *"...it was actively encouraging people to take part in the various hockey activations that we set up on event"* (Table 5.31, England Hockey Interviewee 1, Fan Central - Hockey Makers Passport). A combination of different tools were applied, however, in this case they relied on attendees passing through the main leveraging area.

As seen by the empirical evidence illustrated in tables 5.35 and 5.36, ‘opportunities for participation in hockey’ was the highest form of leveraging experienced amongst the sample. This was particularly evident amongst attendees in the sample aged between 16 and 25. Whilst this may suggest an effectiveness of the initiative, table 5.35 suggests otherwise, since 57.3% of 16-25-year olds reported they did not experience any leveraging.

England Hockey Interviewee 1 highlighted Fan Central as an area which “*on a daily basis we had different sports, we had cycling, we had netball, we have volleyball, athletics and other sports that came effectively to use that space to engage with Fan Central on that day*” (table 5.31, Leveraging – Fan Central), and further confirming that “*Fan Central was effectively the vehicle we used to drive that element of the event*” (table 5.31, Leveraging – Fan Central). Fan Central was essentially used as the main vehicle for the leveraging strategies of the 2018 Women’s Hockey World Cup. The hockey activations, UK Sport stall, information HUB and passport were all implemented in this area of the event. This point is reinforced by UK Sport Interviewee 1, who confirmed to having a stall at Fan Central, next to the England Hockey activities, showcasing and promoting the different sports (see table 5.31, Leveraging – Fan Central). However, as acknowledged by England Hockey, UK Sport did not have permission to stray beyond their designated stall, so their leveraging reach was even more limited. Since Fan Central hosted the majority of the leveraging strategies, it would not be unreasonable to assume that this area be located at or very close to the main Arena. However, evidence indicates that Fan Central was not located in the same area as the Arena, and as a result, most people bypassed it on their way to the matches.

The Clubhouse, according to England Hockey Interviewee 1, “*was a space which had, which we could host things like conferences, seminars, lectures, seats, a television, a bar, and then with that match tickets associated with that particular session...*” (table 5.31, Leveraging – Clubhouse). Thus, it was ultimately used as an engagement tool, primarily to deliver conferences, workshops and guest

speakers (table 5.31, Leveraging - Clubhouse). This area of the event was located at the main Arena, however it hosted specific groups of people, and was as a result not open to the general public. Nevertheless, whilst targeting groups such as umpires and coaches, the general spectators of the event did not experience this, and this was evidence from the quantitative data. England Hockey Interviewee 2 stated that “...*the Clubhouse is more to try and increase our engagement with these clubs basically and then the individuals...predominantly, people in the Clubhouse are people who already play our sport if that makes sense*” (table 5.31, Leveraging - Clubhouse). The focus here being primarily to target those already playing Hockey, which despite 85 per cent of the attendees in the sample reporting being active, not all participated in Hockey. Researcher observational evidence confirms that the Clubhouse was only accessible to certain groups, mentioned previously, and consequently, it’s leveraging power was somewhat diminished. Thus, it could be suggested that the Clubhouse should have been extended to other groups in order to maximise sport participation outcomes.

Ramchandani and Coleman (2012) found that only seven percent of attendees interviewed at the FIH Women’s Hockey Champions Trophy indicated that they received any information about opportunities for sport and physical activity participation. Evidence therefore supports Ramchandani and Coleman (2012), as most of the sample did not experience any leveraging. Additionally, the differences between the types of leveraging experienced and the age groups was not significant. This means that the majority of the leveraging experienced was primarily related to ‘opportunities in Hockey’ (see table 5.37), apart from those aged 56 and over. This particular demographic mainly experienced leveraging in relation to ‘opportunities for participation in other sports’.

Table 5.37 – Post-event sample leveraging by age groups (n=47)

Age Groups	Leveraging – Post-Event	
	Yes (n=12)	No (n=35)
16-25	8.3%	91.7%

26-35	11.1%	88.9%
36-45	40.0%	60.0%
46-55	41.7%	58.3%
56+	33.3%	66.7%
Total	25.5%	74.5%

An approximated 75 percent of the post-event sample did not experience any form of leveraging after the Women’s Hockey World Cup (table 5.37). Thus, substantiating the during-event leveraging data (69 percent), where most of the sample reported negatively to receiving any information about potential opportunities for participation in sport and/or physical activity. Furthermore, the data complements research undertaken by Taks, Chalip and Green (2014) and Misener, Taks, Chalip and Christine Green (2015), who found a distinct lack of leveraging strategies and tactics, in addition to the various missed opportunities by event organisers and other key stakeholders to stimulate sport participation.

Table 5.38 – Post-event sample type of leveraging experienced by age groups (n=12)

Age Groups	Leveraging		
	Opportunities for participation in Hockey	Opportunities for beginners	Sport programmes
16-25	0.0%	100%	100%
26-35	100%	0.0%	0.0%
36-45	50.0%	0.0%	0.0%
46-55	100%	20.0%	20.0%
56+	66.7%	0.0%	33.3%
Overall	75.0%	16.7%	25.0%

Table 5.39 – Post-event sample type of leveraging experienced by age groups (n=12) (Continued)

Age Groups	Leveraging		
	Opportunities for participation	Opportunities for people	Other

	in other sports	already participating	
16-25	0.0%	0.0%	0.0%
26-35	0.0%	0.0%	0.0%
36-45	0.0%	50.0%	0.0%
46-55	20.0%	0.0%	20.0%
56+	100%	0.0%	0.0%
Overall	33.3%	8.3%	2.1%

There is no statistically significant difference between the types of leveraging and the different age groups. From the 25.5 percent of leveraging experienced post-event, the majority was in relation to ‘opportunities for participation in Hockey’. Thus, the focus post-event on the leveraging seemed to be largely targeted and based around Hockey participation (see table 5.38).

There was no statistically significant decrease in the leveraging experienced from during-event (M = 1.68, SD= 0.471) to post-event (M= 1.75, SD= 0.441), $t(46) = -0.771$, $p > 0.05$ (two-tailed). The mean increase (towards 2 (no)), means that participants experienced less leveraging post-event in comparison to pre/during-event. The overall leveraging data, where the majority of attenders in the sample did not experience any form of leveraging (69 percent). The evidence reinforces the research by Ramchandani and Coleman (2012) where only a small percentage of attenders in the sample experienced leveraging. Moreover, the t-tests indicate that from the post-event total of 47 participants, the leveraging decreased, meaning that there was a potential lack of leveraging strategies implemented post-event.

Stakeholder evidence shows that the big screens which were available both at the arena and Fan Central were not effectively used for leveraging purposes. England Hockey Interviewee 2 made it clear that *“it was quite sort of low key in the sense of the messages being portrayed on sort of the big screens and things like that around find your local Hockey club”* and also *“advertising sort of...our various ways to play...so match hockey and things like that I know have some*

sort of air time if you like on the big screen". Evidently, the use of the big screens in the venue was primarily used for advertising sponsorship, and only partly to promote how to find a local Hockey club. However, even then, the focus was not on using the screens as a tool to maximise sport and physical activity participation.

Participation in the sport is not restricted to purely playing the Hockey or any other sport, but also getting involved in the sport in other capacities such as volunteering, coaching and, umpiring and officiating. The latter was of particular importance and focus to England Hockey at the event. England Hockey Interviewee 3 stated that *"what we wanted to do was to try and have an engagement piece in the Fan Central area which allowed people to question themselves and make the decisions as if they were the umpire"* (see table 5.32). The focus here was to use section of Fan Central to promote officiating and umpiring, thus getting people involved in the sport via a different pathway other than playing the game. An activity in this area relied on the use of an iPad which would play a part of the game and then ask what the right decision would be in terms of umpiring. At the end of that *"they would have a landing page right at the end of the video with a QR code on there, which allowed people, well...it provided people with the opportunity to register on the Hockey HUB"* (see table 5.32). This offered participants of the activity with an opportunity to find out more about how to get involved in umpiring and be directed to the website with the relevant information. This could be deemed as a good leveraging tool, however, the sample surveyed showed very limited engagement with this area of Fan Central (see tables 5.35 to 5.39), which suggests the implementation of the strategy was potentially not very effective. A reason for this could be the fact,

"...the Vitality last mile focused around sending people out of their normal walking route from Stratford West Hill to the stadium...it was more about trying to get them to go a different way to Fan Central, instead of going the quick way..." (table 5.31, England Hockey Interviewee 3 – Fan Central & Vitality Mile).

Consequently, the interactions between the attenders and Fan Central was limited as this getting to this area would entail a longer route, with evidence suggesting attenders opted for the quicker path. Nevertheless, data provided by England Hockey Interviewee 3 (see Appendix J), shows that nine thousand people signed up to the Hockey HUB and 25 percent of these were already an umpire or they would be interested in becoming one. The latter only shows intention, and therefore is intangible in nature and a measurement of the number of interested attenders who actually converted their intention and became umpires would be required in order to measure the success of the leveraging strategy.

According to England Hockey, the overall focus when planning to host the Women's Hockey World Cup was to *"increase the visibility of our sport so that we were the number one sport for this year. So that involved everything from getting on television, getting on newspapers, getting on social media, getting in the media, and obviously putting on a great event"* (Appendix H – England Hockey Interviewee 1). Therefore, whilst it would be reasonable to assume sport and physical activity participation leveraging as an essential piece of this focus, evidence suggests that this was not one of the key priorities. In addition, other objectives were to *"provide a world-class event experience to all of our client groups"* (England Hockey Interviewee 1) and increase *"participation in the build-up, during, and post-World Cup as well"* (Appendix H – England Hockey Interviewee 1). Whilst the previously mentioned strategies were implemented to achieve these objectives, evidence suggests these were largely ineffective.

England Hockey acknowledged that they rely on their affiliated Hockey clubs to deliver their strategy. Thus, those who play Hockey will most likely have received information regarding potential opportunities for participation in sport and/or physical activity. Nevertheless, the empirical evidence suggests otherwise, as the majority of the sample did not experience any form of leveraging. However, the strategies implemented by England Hockey, illustrate the limitations of the leveraging strategies.

England Hockey and UK Sport highlighted having a presence at Fan Central, where England Hockey showcased different ways of playing and getting involved in Hockey (such as walking hockey and umpiring/officiating), and UK Sport showcasing other sports including cycling, an estimated 31 percent of the attenders of the during-event sample and 25.5 percent of the post-event sample experienced any leveraging. Evidence therefore suggests that any leveraging strategies implemented by England Hockey and UK Sport, may not have been entirely effective. Additionally, leveraging post-event may be challenging due to a loss of interest or 'hangover' after the event and the consequent disestablishment of key organisations tasked with running the event (Smith, 2014; Ritchie, Chien & Shipway, 2020). Whilst a loss of interest is not evident from the data collected, evidence points to a scarcity of leveraging strategies.

This study acknowledges the limitations in the outreach/scope of the leveraging area established by England Hockey (through an event-based observation), however, it was clear that the focus of the England Hockey's events team was not placed on maximising event-induced sport and physical activity participation. England Hockey and UK Sport confirmed via interviews that no staff members representing both stakeholders were promoting opportunities to get involved in sport and physical activity to the attenders at the main arena. Whilst 'Hockey makers' were positioned throughout the main arena, their focus was on directing people to their seats, assisting with any potential questions, and supplying free merchandise.

An overview of the implemented leveraging strategies at the 2018 Women's Hockey World Cup, highlights potential recommendations for improving the effectiveness of these strategies. The role of the hockey makers at the event seemed somewhat limited, and more responsibility could have been attributed to them in terms of sign posting the locations where information could be obtained regarding sport and physical activity participation. Furthermore, hockey makers could have been tasked with distributing leaflets or packs of information concerning ways of participating in sport in the various capacities. Relying on

spectators do go through the Vitality Mile and Fan Central has evidently not been effective in its outcome. A better link between Fan Central and the Arena would potentially increase the number of spectators taking part in the hockey activations and experiencing the information HUB. Accounting for the fact there were days where the spectators would bypass Vitality Mile and Fan Central and head directly to the Arena, the use of the big screens could have been used to convey messages of participation.

The empirical leveraging findings of this PhD supports the research conducted by Chalip (2004; 2006), in which an uncertain definition of goals and objectives, and a lack of coordination prompted insufficient implementation processes, which failed to grasp opportunities. Evidence shows that “...*the overall aim was trying to get more people playing Hockey and get more people to become fans of the sport...*”, however, another aim was to “*empower the clubs to harness the World Cup, to help increase their own club life and participation of Hockey within their club*”. Despite this being a standard scenario amongst the hosting of major events, both aims focus of different aspects of sport participation. As noticed, that e focus was primarily on the latter aim, with most leveraging activities being implemented at club level, and only a small number at non-active/non-hockey participants.

Chalip, Green, Taks and Misener’s (2016) sports events leveraging model states that in order for there to be effective leveraging, sufficient commitment between the stakeholders needs to occur in relation to the delineated strategy. However, when applying the same model to the 2018 Women’s Hockey World Cup, it is evident that there was a lack of clarity in the objectives regarding sport and physical activity participation. Additionally, there was a scarcity in the physical and human resources utilised in the Arena and Fan Central.

This PhD has therefore contributed towards highlighting the lack of effective event-induced sport and physical activity participation strategies at the 2018 Women’s Hockey World Cup. Whilst it is noted that England Hockey incorporated activities (pre and during-event) to help maximise the participation in Hockey

(both playing and coaching/officiating), that was not a primary focus during the actual delivery of the major sporting event. This is further highlighted by the post-event evidence where only 25.5 percent of attenders in the sample experienced leveraging.

5.6 Conclusion

To conclude, attendance at major sports events in isolation may act as catalysts but are not a secret recipe to increased participation in sport (Weed et al, 2009). There are other mechanisms which may affect an individuals' attitude and behaviour change and these were measured in both the during and post-event samples.

Sport and physical activity participation for the event-based sample was to be significant across the different age groups; there was a 9.1 percent (84.5 to 93.6) increase recorded between those 'active' during-event and the post-event sample. In real terms however, this increase may be reduced since the post-event sample was considerably smaller in comparison to the during-event sample. Evidence suggests that the active attenders from the event-based sample have increased their sport and physical activity participation in the post-event sample. However, since the post-event sample was limited in size it may only provide an indication of behaviour change. Nevertheless, when looking at age groups, evidence suggests that young people (16-25) are involved in more sport and physical activity post-event, in comparison to the older demographics. Participation was predominantly in hockey and general physical activity, which indicates that from the event-based sample, most attenders had an interest in the showcased sport. Although attenders participated in other recreational activities which do not involve sport and physical activity (mainly dance, arts and music), evidence points to this being negligible in relation to participation in the showcased sport (hockey) and physical activity.

According to the different stages of change, the target group (attenders aged 16-25) were situated primarily in the pre-contemplation (32.4 percent), contemplation (34.6 percent) and maintenance (33.3 percent) stages of the model. The young

attenders in the sample were mainly intending to or were already partaking in regular sport and/or physical activity.

The processes of change enable the further understanding of how shifts in behaviour occur (Prochaska, Velicer, DiClemente, & Fava, 1988). It can be concluded that the attenders of the 2018 Women's Hockey World Cup have a positive attitude and awareness in relation to sport and physical activity. This is reflected by the experiential, behavioural processes and decisional balance. The attenders referred to past experiences in sport and physical activity as being positive and that the benefits of participating in these outweighed the negatives/consequences. The young attenders in the sample (16-25) demonstrated a significantly stronger belief regarding the benefits of participation outweighing the negatives, in comparison to attenders aged 46-55. Additionally, attenders were generally able to avoid temptations to be inactive by using self-reminders to do active alternatives. However, evidence was mixed in relation to awareness of free recreational activities which do not involve exercise. These experiential and behavioural processes, coupled with decisional balance, contribute towards the attender's attitude and behaviour. In this case, the younger attenders in the sample (16-25) have indicated a stronger likelihood to increase their sport and physical activity participation as a result of their stronger beliefs particularly in relation to 'decisional balance'. Evidence shows that there is a statistically significant difference ($p < 0.05$) between the 'past experiences' of 16-25 in comparison to 26 and over, indicating a more favourable previous experience for young people. Moreover, the majority of attenders of all the age groups of both during and post-event samples, stated they had experienced positive past experiences in sport and physical activity and possessed a strong desire to participate. The same is applicable to 'stimulus control' ($p < 0.05$), showing that attenders aged 26 and over are generally less able to avoid temptations to be inactive in comparison to young people (16-25).

The beliefs are influenced by perceived behavioural control, and subjective norm. Evidence demonstrates that 90.7 percent of the during-event attenders are

confident or very confident in their ability to participate. Consequently, this increases the likelihood of sport and physical activity participation, and thus progression across the stages of the model. Attenders in the sample generally did not point to feeling social pressure to participate in sport and/or physical activity. This was the lowest amongst attenders aged 16-25 in comparison to those 26 and over. Social pressure could act as either a negative or positive force in relation to influencing sport and/or physical activity participation (Ajzen & Fishbein, 2005), however, attenders in the sample indicated to not feeling pressure from their social network. Additionally, attitude may be predicted by past behaviour and attitude towards the behaviour. Attenders in this study reported to having had positive previous experiences, and a desire (at the time of questionnaire completion) to partake in sport and/or physical activity.

The overall inspiration effect of the 2018 Women's Hockey World Cup was approximately 58 percent, with the 16 to 25-year-old attenders in the sample the most inspired by the event (64.5 percent). The evidence illustrates the inspiration effect decreases with an increase in age, meaning the older attenders in the sample (26 and over) are less likely to be as inspired. Attenders in the sample were shown to be significantly inspired in relation to the showcased sport (hockey) and general physical activity. Evidence points to 'quality of the competition' and 'skill/ability of the athletes' as significantly associated with age with 'quality of the competition' being more important for the young attenders in the samples in comparison to the older demographics. Additionally, evidence illustrated that attendance at other major sporting events (post-2018 Women's Hockey World Cup), contributes towards influencing the intention of the event-based attenders towards increasing sport and physical activity participation.

Intention may be short, medium or long-term, and there are potential barriers and/or contributing factors which can affect the translation from intangible (intention) to tangible (behaviour). Evidence regarding 'intention' shows that the attenders of both the event-based and post-event samples largely intended to maintain or increase their levels of sport and physical activity. In addition, results

indicate that the 2018 Women's Hockey World Cup had a positive effect on the overall 'intention' of the attenders, with it being highest amongst the young attenders (16-25 and 26-35). The older demographics primarily showed the 'intention' to maintain their current levels of sport and physical activity participation, whereas 95.2 percentage points of 16-25-year olds intended to either maintain or increase their levels of sport and physical activity prior to attending the major sport event, with only 0.8 percentage points intending to reduce. Evidence does point to young attenders having a positive attitude towards the behaviour pre-event. However, this was not statistically significant ($p>0.05$), as 92.4 percent of the event-based sample intended to either maintain or increase their current levels of participation. Nevertheless, as researched by Frawley and Cush (2011), Boardley (2013) and Wicker and Sotiriadou (2013), this only shows 'intention' to change behaviour and is no guarantee of actual behaviour change. Nonetheless, Potwarka (2015) found that attenders who intended to become more active also expressed a positive attitude towards that behaviour, which is a strong predictor of behaviour change.

As stressed by Potwarka, Drewery, Snelgrove and Havitz (2017), studies have failed to account for both personal and external factors that may affect an individual's attitude and behaviour, but also might explain demonstration effects. It was established that there are key facilitating and mitigating factors to sport and physical participation. 'Available transport', 'money', 'accessibility to sports facilities' and 'available sporting and exercise opportunities' were highlighted as significant facilitating factors ($p<0.05$). 'Available transport' was strong for young attenders in the sample aged 16-25 in comparison to the older demographics. 'Being advised by the doctor' was significantly different between the various age groups and highlighted by the older demographics as a facilitating factor for sport and physical activity participation ($p<0.05$). In relation to the mitigating factors, 'cost', 'inaccessibility to sports facilities', 'lack of transportation', 'age' and 'lack of time (including childcare) were significant deterrent factors of the attenders in the sample ($p<0.05$). These factors are matching to the facilitating factors previously

mentioned, apart from 'age' and 'lack of time (including childcare)'. These two factors were significantly stronger amongst the older demographics ($p < 0.05$).

Leveraging may act as an influencing factor for sport and physical activity participation. Ramchandani and Coleman (2012) found that the most important lever to sport development is 'sign posting', which involves providing people with access to information about sports club and other opportunities. The qualitative data highlighted promotion of sport and physical activity, leveraging and legacy as the three key themes, along with 22 sub themes were identified from the four stakeholders' interviews. The main key theme is 'leveraging', which highlights the strategies employed for the event. The event stakeholders emphasised the leveraging initiatives implemented at the 2018 Women's Hockey World Cup; however, limitations and inefficiencies were identified. The strategies ranged from hockey activations to officiating activities, however, empirical evidence suggests that the reach of leveraging was scarce. This is seen by the fact that only 31 percent of the entire event-based sample experienced some form of leveraging, with this decreasing post-event (25.5 percent). However, as noted previously the post-event sample size was limited. Most of the leveraging was experienced before the event and by attenders aged 16-25 and responses suggest that young people (16-25) experienced more leveraging in comparison to older attenders aged 26 and over. Leveraging pre-event had a 10-percentage points difference between both age groups, with the percentage being higher for the 16-25s. Additionally, a difference of 17 percentage points was verified between the attenders who did not experience leveraging (57.3 percent and 74.2 percent) for both age groups. Thus, the impact of leveraging during-event and post-event is not significant for attenders over 26 years of age. Nevertheless, despite England Hockey and UK Sport delivering activities at Fan Central, 69 percent of the event-based sample did not experience any form of leveraging. As a result, evidence highlights the limitations of these leveraging strategies and their overall effectiveness.

Chapter Six – Conclusion

6.0 Introduction

The previous chapter provided a thorough illustration of the empirical results and subsequently a detailed discussion, thus bringing together the results and current theory to draw conclusions in relation to the aim and objectives stated in Chapter Four. As a result, highlighting the contribution to knowledge of this PhD. This chapter offers a summary of the key findings of the research undertaken, along with a review of the contribution to knowledge made to the current body of literature regarding the inspiration effect of attending major sporting events in the United Kingdom. Additionally, it will address the limitations of the research carried out, along with the associated difficulties of attributing the inspiration effect to a specific major sporting event. To conclude, the chapter will identify potential areas for future research, but also highlight challenges which may potentially arise as a result of carrying out this future research.

6.1 Summary of Key Findings

This PhD found that that attenders of the 2018 Women's Hockey World Cup were primarily active, supporting previous research (Ramchandani and Coleman, 2012; Ramchandani et al, 2017; Ramchandani et al 2019). Evidence from this study shows that the inspiration effect is prevalent amongst attenders aged between 16 and 25, in comparison to the older demographics. Consequently, this confirms the theory which points to young people being more likely to feel inspired, and that this gradually decreases with an increase in age (Frawley & Cush, 2011; Craig & Bauman, 2014). Moreover, intention to do more sport and physical activity was significant between the different age groups, with the highest being amongst young people aged 16-25. Young attenders had a positive attitude towards the behaviour pre-event. Post-event evidence indicates an increase in intention for 16-25s, however, this only provides an indication as sample sizes were substantially different. Furthermore, attenders who intended to increase their participation were already active.

Most of the attenders registered medium to high on the adapted Rosenberg Self-Esteem scale, which suggests that attenders of major sporting events are generally confident of their ability to successfully take part in sport and/or physical activity. Young people who are confident in their abilities are more likely to positively change their behaviour (as suggested by the EIBCM), and in this case participate in sport and/or physical activity. However, evidence showed no significant increases in sport and physical activity participation as the small net increase in participation were attributed to attenders who were already active.

Additionally, key findings of this PhD include the facilitating and mitigating factors which can influence sport and physical activity participation. The factors highlighted by the attenders of the Hockey World Cup as positively influential include 'available transport', 'money', 'accessibility to sports facilities' and 'available sporting and exercise opportunities'. Reversely, 'cost', 'inaccessibility of sports facilities' and 'lack of transportation' were identified as negatively influential. This negative influence was expressed more significantly with 'age' and 'lack of time'. Most of these negative and positive factors match, validating the responses and reported mechanisms in affecting behaviour change.

This study found that the stakeholders of the 2018 Women's Hockey World Cup in London, namely England Hockey and UK Sport, implemented leveraging strategies mainly pre and post-event. The main strategy was the 'Your World Cup' campaign which was implemented during the planning and delivery of the event. However, this focused mainly on hockey clubs and as such ultimately targeted individuals already participating in sport and physical activity. 69 percent of the attenders in the event-based sample reported having received no information regarding opportunities to participate in sport and physical activity. Furthermore, evidence shows that young attenders aged 16-25 are more prone to experiencing leveraging in comparison to the older demographics. The focus of the leveraging strategies was placed on Fan Central, which was the zone designated for fans and attenders to participate in multiple activities related mainly to Hockey. Nevertheless, due to its location and considering the number of entrances and

exits available at the location, evidence suggests that most people bypassed Fan Central when heading to the main arena. Since the strategies were heavily implemented at Fan Central, it resulted in 69 percent of the sample not having experienced any of the sport participation leveraging strategies. Thus, these strategies seem to be largely ineffective in terms of increasing sport and physical activity participation, particularly during the delivery of the 2018 Women's Hockey World Cup. The leveraging strategies would have been more effective if they had been implemented at the main arena. The arena was where the attenders were based and where the food and drinks stalls were located, thus chances are more attenders would have seen and potentially experienced the various activations present.

The EIBC Model has successfully measured changes in attitude and behaviour and ultimately allowed to illustrate these changes. The EIBC Model's dynamic structure, shows how attenders may regress, maintain or progress across the various stages of change. By plotting the evidence in the appropriate section of the model, it is possible to establish in what way attendance at major sporting event affects attitudinal and behavioural change.

6.2 Contribution to Knowledge

The inspiration effect is intangible, as it is the desire or feeling that an individual experiences as a result of watching and/or attending a major sporting event. Nonetheless, this only provides an indication, in other words 'intention' to change behaviour in the future. As highlighted in Chapter Two, previous studies such as Weed et al (2009), Ramchandani and Coleman (2012), Ramchandani et al (2015; 2017a; 2017b) and Potwarka et al (2019) have primarily measured intention to change behaviour. Therefore, in order to test and quantify the effect of attendance at a major sporting event, it is essential to measure actual attitudinal and behavioural changes of the major sport event attenders. However, this is still in its infancy, only recently been achieved and arguably in a limited capacity (Potwarka et al, 2019; Ramchandani et al, 2019).

This PhD has contributed empirically by testing the inspiration effect and measured attitude and behaviour change primarily of attenders aged between 16 and 25 years of age. As pointed out earlier in the thesis, research has used samples consisting primarily of major sport event attenders aged 26 and over. Empirical evidence found that 64.5% of attenders aged between 16 and 25 year of age reported to being inspired as a result of attending the 2018 Women's Hockey World Cup, which in contrast with the older demographics was significantly higher. Thus, the sample enabled a clearer and further understanding of the inspiration effect in younger people. Additionally, these studies have not incorporated the individual's perception to successfully participate in sport and physical activity, and not identified the mechanisms which may positively or negatively affect behaviour change.

From a methodological perspective, this PhD has provided further empirical testing by combining both quantitative and qualitative data collection methods, namely surveys and interviews, and applied these to major event research. Event research has mainly utilised surveys for primary data collection, relying heavily on quantitative data. However, this PhD has taken this process further by including interviews, and the researcher's observations during the fieldwork process, and triangulating both sets of data. The stakeholders were interviewed, and the data was triangulated with the leveraging evidence provided by the attenders of the major sporting event.

This PhD has contributed to theory by developing a new attitudinal and behavioural change model, the Events Inspired Behaviour Change Model (EIBCM), which may be applied to any sporting event and enables the measurement of attitudes and behaviours of major sport event attenders. Research by Ramchandani et al (2017b) applied the TTM to the measurement of the inspiration effect of major sporting events, however, it did not incorporate the facilitating and mitigating mechanisms of attitude and behaviour change. The EIBCM, uses a combination of the TTM and TPB, which enables the

measurement of attitudes and behaviours of major sports events attenders and includes both mechanisms of attitude and behaviour change. Furthermore, the EIBCM embeds key components such as the 'Processes of Change', participation in recreational activities and the inspiration effect. The 'Processes of Change' are cognitive, affective and evaluative processes which allow for progression across the different stages of change of the model. These are important in understanding how people think and therefore what is their attitude towards sport and physical activity at different points in time. However, a key aspect of the EIBCM is it accounts for aspects that affect an individual's attitude and behaviour, including Perceived Behavioural Control (PBC) (confidence levels to successfully carry out sport and physical activity tasks), and the facilitating and mitigating factors. This PhD has achieved such measurement by analysing pre, during and post-event data from two samples (during and post-event). Evidence supports Hover and Breedveld (2015) which found that attenders of major sporting events are primarily 'active', but also further indicated that confidence levels were generally at medium and high levels for the sample. Additionally, the EIBCM accounts for the potential leveraging, which may affect attitudinal and behavioural change. The empirical evidence supports previous research suggesting that a lack of effective leveraging strategies and unclear sport participation and development goals ultimately result in missed event leveraging opportunities.

Chalip (2014) and Fairley et al (2016) highlighted the importance of leveraging in order to successfully maximise the probability of long-term benefits to the host nation and its community. As pointed out by Weed et al (2012) and Potwarka & Snelgrove (2013), leveraging in a sports event context is the implementation of interventions designed to promote sporting opportunities and an influence of staging an event, will more likely result in increased participation levels. Chalip, Green, Taks and Misener (2016) suggested that leveraging requires the input of physical, financial and human resources, which may not always be available. As highlighted by Schulenkorf and Schlenker (2017), there is a lack of empirical evidence concerning the leveraging strategies implemented by major sport event

stakeholders. This PhD contributed towards bridging this gap in knowledge by examining the leveraging approach of the 2018 Women's Hockey World Cup in London. England Hockey delivered the major sport event and were responsible for the implementation of the leveraging strategies along with UK Sport. These included the 'Your World Cup Campaign', the 'Passport', hockey focused activities, showcasing of other sports, refereeing and officiating, and volunteering. The effectiveness of the leveraging strategies implemented at the 2018 Women's World Cup were examined and these were shown to be largely ineffective. Whilst the major sporting event had some leveraging strategies, evidence provided by the stakeholders indicated that the primary focus was not on increasing sport and physical activity participation but rather on showcasing Hockey (England Hockey) and few other sports (UK Sport). Furthermore, the locations at the event where these strategies were implemented were limited. Most of the strategies were not executed at the main venue (Lee Valley Stadium). As established in the Chapter Five, the strategies previously mentioned were not efficiently delivered throughout the duration of the event, as the majority of attenders in the sample reported to negatively to having been given information regarding participation in sport and physical activity. Nevertheless, data suggested a lack of effectiveness in these implemented strategies. Therefore, this PhD provided a further in-depth understanding of the lack of effective leveraging at major sports events. As a result, a contribution to knowledge of this PhD is highlighting that major sport event stakeholders need to implement the strategies at the main venue and not solely in a limited space. In order to maximise the influence of the designated activities, these need to be implemented in locations of the event where most of the attenders are present and engaging. Additionally, as stated by Chalip, Green, Taks and Misener's (2016), there needs to be enough commitment between the stakeholders, which in this case are England Hockey and UK Sport, in relation to the delineated strategies. A lack of clarity in the established objectives resulted in an evident inefficiency of the scope of the implemented leveraging strategies. Thus, future major sporting events should not only have clear objectives between the stakeholders but also allocate the necessary human and physical resources

to maximise the potential of impacting on sport and physical activity participation of the event attenders Chalip, Green, Taks and Misener's (2016).

6.3 Recommendations

6.3.1 In practical terms for GB Hockey and UK Sport

Empirical evidence from the 2018 Women's Hockey World Cup in London highlighted a need to re-think the implementation of the leveraging strategies from both England Hockey and UK Sport. It is evident that the event objectives were not clear for both stakeholders, which consequently resulted in leveraging limitations throughout the duration of the event. Furthermore, whilst it was briefly pointed out by a member of the England Hockey event's team that they were certainly incorporating 'increased sport and physical participation' in their event objectives, this was not clear. Evidence therefore recommends stakeholders, in this case England Hockey and UK Sport, clearly include sport and physical activity participation in their event aims and objectives.

Additionally, the use of the physical infrastructure at the 2018 Women's Hockey World Cup was inefficient to an extent. Whilst some leveraging strategies were implemented, and a portion of the attenders experienced these, the scope was limited. In relation to the UK Sport stall at Fan Central, the staff were conditioned to the designated space. The same could be said to the England Hockey staff at Fan Central. As a result, any information and/or engagement between the England Hockey, UK Sport and the attenders is limited. It would be recommended that these activities were extended to the main Arena, since it is where the matches were being played and the final location for those who purchased tickets. Moreover, as observed by the researcher, for matches taking place during the week, attenders were bypassing Fan Central and walking straight to the main Arena. Thus, in order to maximise engagement with the attenders, England Hockey and UK Sport should in future look at implementing a wider breadth of their leveraging strategies at the main venue.

The Hockey Maker workforce seemed somewhat underused throughout the event. Even though it was acknowledged that they were distributing the 'Passport' to attendees, they could have also distributed information packs with concrete information about opportunities to participate in hockey. Observational data indicated that Hockey Makers were mainly directing people to the relevant areas of the event and answering general questions. This indicates that the Hockey Maker workforce was not being efficiently utilised.

Ultimately, the leveraging strategies were limited at the main arena, and this potentially contributed towards a lack of attendees in the sample experiencing any form of leveraging. The big screens were primarily used for commercial purposes, hence a bigger emphasis on information regarding access to opportunities to participate would be a reasonable recommendation. Ultimately, a targeted approach to the leveraging strategies is the most effective way to maximised positive event outcomes.

6.3 Limitations

Limitations are common in large-scale research projects, and this study is no exception. The limitations were mainly practical in nature, encompassing methodological issues. A clear effort was made in both the planning and execution of the study to minimise the impact of these limitations; however, lack of time and resource constraints, made it difficult to eliminate all of the weaknesses. This section will highlight the limitations of the study and explain the measures taken to reduce their impact on the validity and reliability of the findings. The primary research was conducted at a real-life major sporting event setting, which presented several challenges to the author and highlighted the difficulties of conducting sports event research. These will be explored in this section.

6.3.1 Methodological Limitations

The methodological limitations associated with this PhD were addressed in-depth in Chapter Four, and thus this section will only provide a summary of the methodological issues of this thesis. The primary research needed for the

effectiveness and overall success of this study suggested the use of questionnaires and interviews; the choice made was to use self-administered questionnaires in order to speed up the data collection process, and consequently maximising the time available to hand out questionnaires to other participants. However, due to the plethora of variables being measured, the questionnaires were of considerable length and as a result, participants generally needed a significant amount of time to complete the questionnaires. Due to the limited 'windows of opportunity' to handout the questionnaires, the total number of completed questionnaires was reduced. Despite this, attenders were generally happy to fill out the questionnaire during the match breaks on the understanding that this benefited a PhD study. Attenders expressed interest in the research topic, which made it easier to create a rapport with the participants, and consequently reducing the limitation of the length of questionnaire completion.

Another key limitation was the limited post-event sample size, which despite having an average response rate for an online survey, it yielded a small number of participants in the comparison sample. Consequently, parts of the analysis were not at full strength due to reduced number of participants in some post-event variables. Some comparisons were very weak and therefore not analysed in detail due to the overall size of the sample. Thus, whilst there are key strengths to this PhD study, and the data collection process carried out, this study would undoubtedly be more robust with a larger comparison sample.

Possibly the main methodological limitation encountered in this study is the lack of varied major event samples. Initially, the established plan involved using a variety of different major sporting events in the data collection. However, due to time constraints and the fact that these events only occur at certain points in the year, it was not feasible to incorporate more than one major sporting event. This limitation was minimised by using a major sporting event which lasted two weeks instead of the usual one or two days for smaller events. However, it is not possible to be sure of the representativeness of the event-based and comparison samples, thus restricting the ability to generalise to other major sporting events. As a result,

the general EIBC Model developed by this PhD study, would need to be applied to a variety of different major sporting events, in order to establish the general significant variables that influence sport and physical activity participation, as different events may have a different effect on the attenders. Nonetheless, this study provides a firm foundation upon which to develop future research, which will be discussed in section 6.4.

6.3.2 Difficulties with Causality and Attitude and Behaviour Measurement

As established throughout this thesis, it is very difficult to prove causation, as there are different internal and external factors, such as tastes and preferences, mitigating and facilitating factors of behaviour change, and attendance at other major sporting events. These are all factors which may impact on an individual's attitude and behaviour. Thus, stating that one major event alone was the reason a major event attender changed their behaviour is problematic. Attitude and behaviour change measurement is not a simple process, as there are many variables that need to be taken into consideration in order to determine a person's attitude and behaviour towards sport and physical activity. This PhD was able to contribute towards the reduction of this gap by identifying the significant facilitating and mitigating factors of sport and physical activity participation of the sample from the 2018 Women's Hockey World Cup.

Moreover, causality is difficult to establish in part due to the traditionally applied study designs in the sports events research arena. This PhD study used a mixed methods design based on theories of change which are more appropriate for establishing causality.

The inspiration effect attributed to the attendance of other major sporting events to the attenders' increased level of sport and physical participation was measured. However, the post-event sample size was limited, so findings only provide a potential indication of the effect.

6.4 Areas for Future Research

This PhD was limited in both time and resources, thus there are some recommendations for future research. Firstly, methods used in the data collection were limited in nature. Whilst a mixed methods approach was applied to this study, in order to achieve a more in-depth analysis and establish potential stronger causal relationships, a diary of sport and physical activity should be incorporated. Due to further time restraints of a PhD study, future research should look at testing the inspiration effect on a longitudinal study basis. In other words, tested at different points throughout the year, enabling the short, medium and long-term testing of the inspiration effect of attending major sports events. This would enable the researcher to capture actual changes in behaviour on a micro and macro level.

On the other hand, due to logistical constraints of the 2018 Women's Hockey World Cup in London, the research tools were only able to measure limited pre-event variables. Whilst the data was valid, future research should look at applying the EIBCM to three distinct points in time (pre, during and post-event). This would provide a more accurate overview of the attenders' background and circumstances, whilst also measuring any changes in attitude and behaviour on a larger scale. Nevertheless, this would represent some challenges, including having access to the attender's contact details, which are not always available and thus will be dependent on the type of event.

The inspiration effect of attending major sports events research has been thus far limited in terms of location. Countries differ in most part in terms of culture, thus, research should look at applying the same principles to major sports events hosted in other countries. This study's theoretical framework should be applied to different major sporting events from distinct countries thus enabling comparisons and to examine whether the inspiration effect is in fact similar or different across the board.

6.5 Future Challenges

The inspiration effect of a major sporting event is difficult to measure due to the various ways in which they can be experienced. Although this PhD study tested the inspiration effect as a result of attendance at the live major sporting events, these events may also be experienced via several media platforms. Research (UK Sport & SIRC, 2012) suggests that the inspiration effect is lower (25 percent) when experienced through TV, in comparison to attendance at a live event (58 per cent). Nevertheless, determining causality is problematic, and thus a major sporting event is realistically only able to contribute towards inspiring an event attendee.

Moreover, there are other contributing factors which may positively or negatively influence sport and physical activity participation. This PhD study has contributed towards identifying these mechanisms, however, these facilitating and mitigating factors are determined by other demographic background variables. Therefore, whilst they are contributing factors, they may change over time depending on the attendee's own circumstances and background.

6.6 Conclusion

This PhD thesis began by proposing the aim, research question and objectives, before discussing the major sports events inspiration effect context. The appropriate theoretical framework was discussed and employed. Following an outline of the adopted methodological approach and issues encountered, the empirical results were presented and discussed considering the research questions and objectives, devised as a result of the review of existing literature relating to impacts of hosting and attending major sporting events, with a focus on the inspiration effect.

As established in Chapter Two, there is a gap in the literature regarding the inspiration effect of young people aged between 16 and 25. Samples of previous research were based mainly on participants aged 26 and over. However, evidence indicates that the inspiration effect decreases with age, and this PhD

study found evidence suggesting this. The inspiration effect was significantly higher amongst the 16-25 age group, in comparison to the older demographics (26 and over).

Theories and models of behaviour and behaviour change were analysed in Chapter Three, and it was concluded that the TTM and TPB were the most appropriate combination to measure attitudinal and behavioural changes of major sport event attenders. Forward (2014) applied the similar combination to major sporting events, whilst Potwarka et al (2019) applied the TPB, and thus this PhD follows the same rationale whilst refining their application.

The EIBC Model was developed and applied to the data collected at the 2018 Women's Hockey World Cup. In order to collect the required data, questionnaires were devised taking the EIBCM into consideration. Two sets of data were collected, including during-event (n=407) and post-event (n=47) samples. Interviews were conducted to the stakeholders, namely England Hockey and UK Sport, with the purpose on gathering evidence regarding the leveraging strategies implemented at the 2018 Women's Hockey World Cup.

This study found that an estimated 58 percent of attenders from the 2018 Women's Hockey World Cup sample felt inspired to do sport or physical activity more frequently than they would normally. Young people aged 16-25 were the most inspired (64.5 percent), in comparison to the other age groups where the inspiration effect gradually decreases. In addition, the 23.5 percent of the participants who perceived to have increased their sport and physical activity levels post-event, attributed this in part to their attendance at the hockey event. 46.7 percent of attenders who were considered active and attended other major sporting event(s), had felt inspired.

Results indicated that the attenders of both during and post-event samples have a positive attitude towards sport and physical activity participation. 'Stimulus control' and 'social liberation' were highlighted as the main processes of change across the sample. Additionally, 'decisional balance' was significantly different

between the age groups, and stronger for young people age 16-25 in comparison to older demographics. Furthermore, 'perceived behavioural control' was medium to high (90.7 percent), which shows confidence in ability to successfully take part in sport and physical activity. Thus, high confidence levels increase the likelihood of participation, with this being highlighted for young people. It was established that young people aged 16-25 believe that the positives of participating in sport and physical activity outweigh the negative, and this is significantly different between the age groups.

Behaviour was examined across two different points in time, namely during-event and around six months post-event. 84.5 percent of the attenders in the first sample reported to have participated in sport and physical activity in the four weeks prior to attending the 2018 Women's Hockey World Cup. This increased in the post-event sample; however, it has been acknowledged throughout the study that the sample is of limited size. Consequently, it makes it somewhat difficult to derive significant results from the post-event sample. Nevertheless, both samples indicate that most attenders participate in sport and physical activity for at least 30 minutes per week, and therefore are considered to be fairly active or active.

The mechanisms that affect behaviour change, in this case sport and physical activity participation, were examined. Attenders of the hockey event highlighted transportation, money, access to sports facilities, available sport and exercise opportunities and advice from the doctor, as the key facilitating factors. The latter had a positive relationship with age, meaning attenders aged 16-25 did not deem this as a significant facilitating factor in comparison to the older age groups. Attenders aged 16-25 attributed more importance to money in comparison to older demographics.

The quantitative and qualitative data found that the leveraging strategies implemented at the 2018 Women's Hockey World Cup were largely ineffective. The strategies ranged from the 'Your World Cup' campaign to activities at Fan Central. However, most of the attenders from both during (69 percent) and post-

event (74.5%) samples reported to not having experienced any form of leveraging. The stakeholders evidence confirmed this, and further indicated that the focus of the initiatives implemented were not on increasing sport and physical activity participation. Despite having employed certain activities at the event, these were limited in reach and location. Additionally, according to England Hockey data, the focus was primarily on the hockey clubs and their members. Since the primary focus was not on increasing hockey or general sport and physical activity participation, the strategies were somewhat limited in nature at the event. Evidence therefore suggests that the leveraging strategies implemented at the Hockey event were limited and ineffective in terms of increasing sport and physical activity participation.

It can be concluded that attendance at major sporting events can act as a catalyst to increase sport and physical activity participation, however there are other influential factors which affect an attender's sport and physical activity participation levels. The EIBC Model highlights the different factors which affect attitude and behaviour change and has illustrated these measurements. It was established that the 2018 Women's Hockey World Cup follows a similar pattern in relation to other previously researched major sports events, as most attenders in the sample were 'active' as opposed to 'non-active'.

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Appendices

**Appendix A –
Studies on the Economic and Social Impacts**

Study	Context/Purpose	Impact	Event Type
1. Kasimati (2003)	Examines and evaluates methods and assumptions used by the economic studies.	Economic	Mega
2. Malfas (2004)	Reviews the literature on the features of such events and, drawing particular examples from recent Olympic Games, it identifies the nature and extent of their impacts on the host country and community.	Various	Mega
3. Gratton et al (2005)	Analyses the justification for investments in sport in cities and assesses the evidence for the success of such strategies	Economic	Major
4. Ohmann et al (2006)	Explores the perceived impacts of the 2006 Football World Cup upon residents of one of the host cities-Munich.	Social	Mega
5. Weed (2006)	Analysis of the concept of sports tourism	Economic (Tourism)	Mega
Giesecke & Madden (2007)	Ex-post analysis of the 2000 Sydney Olympics that addresses three risks: 1. failure to treat public inputs as costs; 2. elastic factor supply assumptions; and 3. overestimation of foreign demand shocks via inclusion of 'induced tourism' expenditure.	Economic	Mega

6. Solberg & Preuss (2007)	Analyses the tourism impact of hosting major sport events, focussing specifically on the long-term economic impact.	Economic	Major
7. Smith & Fox (2007)	Evaluates the impacts of the Legacy Programme adopted in conjunction with the 2002 Commonwealth Games held in Manchester, UK.	Economic & Social	Major/Mega
8. Walters (2008)	Bidding for major sporting events: key issues and challenges faced by sports governing bodies in the UK.	Economic & Social	Major
9. Barclay (2009)	Does the economic benefit compensate for and outweigh the cast costs and substantial risks incurred?	Economic	Mega
10. Kasimati & Dawson (2009)	Examines the impact of the Athens 2004 Olympic Games on the Greek economy.	Economic	Mega
11. Haddad & Haddad (2010)	Based on a study whose results aimed to estimate socioeconomic impacts of the Olympic Games to be held in Rio de Janeiro.	Economic	Major
12. Frawley & Cush (2011)	Explore the impact hosting major sport events have on sport participation for a host nation.	Economic & Social	Major

13. Fourie & Santana-Gallego (2011)	Measures a very direct benefit of such mega-events: the increase in tourist arrivals to the host country	Economic (Tourism)	Mega
14. Wicker et al (2012)	Investigate the value of Olympic success using the contingent valuation method (CVM).	Economic	Mega
15. Martin & Barth (2013)	Compares and contrasts methods and theories behind sport mega-events and attitude variations among residents. Focuses on residents of Glasgow and the 2014 Commonwealth Games, highlighting perceptions toward potential impacts.	Social	Mega
16. Muller (2014)	Assesses the outcomes of the 2014 Sochi Olympic Games, examining the costs and economic impacts of the event, prospects for the long-term use of venues and infrastructure, and the attitudes of the global and the Russian population.	Economic	Mega
17. Liu & Wilson (2014)	Examines the negative impacts of mega sporting events on host cities and the relationship between negative impacts and the travel intentions of potential international tourists.	Economic (Tourism)	Mega
18. Liu (2015)	Examine the social impact of major sports events perceived by host city	Social	Major

19. Knott et al (2015)	Assess social cohesion and nation-building on 2010 FIFA World Cup host residents living in the suburb of Green point, that surrounds the Cape Town stadium.	Social	Mega
20. Taks et al (2015)	Addresses the strategic choices that host communities make when hosting non-mega events, including outcomes of those choices.	Economic & Social	Major
21. Djaballah et al (2015)	Explores how social impacts are perceived by local governments.	Social	Major
22. Kim et al (2017)	Examined the new money generated from Formula One Grand Prix (F1) and the economic impacts of this new money on the host economy.	Economic	Major/Mega
23. Trotier (2017)	Examines the Indonesian city of Palembang as a repeated host of international sports events and how these create an image and narrative of success with regard to the city.	Social	Major

**Appendix B –
Table categorising the current literature**

Study	Study Focus	Target Group	Geography	Nature of Analysis	Measurement of Actual Behaviour Change (Stages of Change)	Rigour	Output Type
Bowles et al (2006)	Attendees	Adults	Australia	Attitudinal & Behavioural	No	Convenience sampling	Journal
Lane et al (2008)	Attendees	Adults and Children (Women)	Ireland	Behaviour	No	Convenience sampling	Research Report
Weed et al (2009)	Population	Adults & Children	England	Behaviour	No	Databases	Research Report
Hanstad & Skille (2010)	Population	Adults & Children	Norway	Behaviour	No	Convenience sampling	Journal
McCartney et al (2010)	Population	Adults & Children	Various	Behaviour	No	Systematic Review	Journal
Frawley & Cush (2011)	Population	Adults & Children	Australia	Attitudinal & Behavioural (Registrations)	No - registration data	Convenience sampling (registration data)	Journal

UK Sport & SIRC (2011; 2012)	Attendees and TV viewers	Adults	England	Attitudinal	No	Convenience sampling	Consultancy papers
Ramchandani & Coleman (2012)	Attendees	Adults	England	Attitudinal	No	Convenience sampling	Journal
Weed et al (2012)	Population	Adults	England	Behaviour	No	Convenience sampling	Journal
Mahtani et al (2013)	Population	Adults	United Kingdom	Behaviour	No	Overview of Systematic Reviews	Journal
Boardley (2013)	Population	Adults and Children	United Kingdom	Attitudinal	No	Convenience sampling	Journal
Wicker & Sotiriadou (2013)	Population	Adults	Australia	Attitudinal	No	RCTs	Journal
Craig & Bauman (2014)	Population	Children	Canada	Attitudinal & Behavioural	No - not specifically for event attendees	RCTs	Journal
Bauman et al (2014)	Population	Adults	Australia	Attitudinal	No	Serial cross- sectional & random sampling	Journal

Ramchandani et al (2014)	Attendees	Adults	England	Attitudinal	No	Convenience sampling	Journal
Weed et al (2015)	Population	Adults & Children	Varied	Attitudinal & Behavioural	No	Systematic Review of Evidence	Journal
Ramchandani et al (2015)	Attendees	Adults	England	Behaviour	No	Convenience sampling	Journal
Derom et al (2015)	Attendees	Adults	Belgium	Behaviour	No	Convenience sampling	Journal
Potwarka (2015)	Population	Adults	Canada	Attitudinal	No	Convenience sampling	Journal
Frick & Wicker (2016)	Population	Adults & Children	Germany	Attitudinal & Behavioural	No - annual membership numbers in sports clubs	Convenience sampling	Journal
Ramchandani et al (2017a)	Attendees	Adults	United Kingdom	Attitudinal	No	Convenience sampling	Journal
Potwarka et al (2017)	Attendees	Adults	Canada	Attitudinal & Behavioural	No	Convenience sampling	Journal

Ramchandani et al (2017b)	Attendees	Adults	United Kingdom	Behaviour	Yes	Convenience sampling	Journal
Ramchandani et al (2019)	Attendees	Adults	United Kingdom	Behaviour	Yes	Convenience sampling	Journal
Potwarka et al (2019)	Attendees	Adults	Canada	Attitudinal & Behavioural	Yes	Convenience sampling	Journal

Appendix C –

Analysis of the behaviour and behaviour change theories (outside sport context)

Theories					
	Positives	Limitations/Criticisms	Other Evidence/Remarks	Predictive Power (Intention)	Predictive Power (Attitudinal & Behaviour Change)
Social Cognitive Theory (SCT)	Takes into account appraisal which is affected by the individual's personality	Fails to consider the personalities of individuals, how these are formed, meaning the emphasis is on the social context	Miller et al (2015) - SCT used to "predict the frequency and intention for not smoking among middle school students" (p59) - results showed that 'self-control', 'expectations', 'environment' and the 'individual's emotional coping' were noteworthy predictors for intent of smoking	Weak	Weak
		Ogden (2003) - does not take into account some key factors			
		Is not seen as collective, meaning it does not explain the relationship between self-efficacy and observational learning, regarded as the two main concepts			
	Although to a lesser extent, it does consider feelings as it acknowledges self-regulation (Prager, 2012)	Theory is depersonalised - does not acknowledge the feelings, reactions or unconscious actions of individuals			
	Overlooks the influence of learning differences, hormonal processes, brain development and the person's DNA. <i>May be considered as a valid criticism as each individual has a different growing rate and consequently, the brain develops at varied speeds (Wisconsin Council, 2007)</i>	These differences as make it hard to generalise this particular aspect of the theory to the general population			

Self-Efficacy Theory	Moritz et al (2000) - the theory is a robust predictor of behaviour	Wingo et al (2013) - secondary analysis on a RCT which tested the effects of lifestyle interventions on blood pressure, concluding that self-efficacy (both dietary and exercise), were not predictors of weight and behaviour change	Holloway & Watson (2002) - evidence supporting the importance of self-efficacy in nursing practice and other clinical areas. Self-efficacy was found to be a particularly effective determinant to predict both disease prevention and early detection behaviours and adaptation to cancer (Haas, 2000)	Good	Weak
	Holloway & Watson (2002) - <i>"manipulations of self-efficacy have proved influential in attempts to initiate and modify health behaviours"</i> (p112)		Holloway & Watson (20002) - it has been proposed in orthopaedic nursing that self-efficacy be used as a preoperative measurement in order to identify patients who may be less likely to perform preventive postoperative behaviours		
	Pajares (2002) - highlights that researchers have established that self-efficacy beliefs, behaviour changes and outcomes are highly correlated, making self-efficacy a great predictor of behaviour		Graham & Weiner (1996) - found that self-efficacy has demonstrated to be a more reliable predictor of behaviour outcomes and other motivational paradigms. Therefore it is not just a question of how capable an individual is, but how capable the individual believes he/she is		
Social Practice Theory (SPT)	Schatzki et al (2001) - allows for the explanation of behaviour	Schatzki et al (2001) - the focus is on social practice and their interaction with material contexts, rather than individual behaviour		Weak	Weak
		Frohlich et al (2001) - does not account for change due to the relationship between wider social systems and practices	Maller (2012) - a distinction between performance and entity would make theorisation possible		
		Reckwitz (2002) argues that <i>"it has not offered a theoretical 'system' which could compete in complexity..."</i> (p257), with the other theories such as the theory of communicative action and theories of cognitive psychology, or constructivist theory of social systems			

Theory of Reasoned Action (TRA)	Papadopoulos et al (2008) empirically tested the TRA through a marketing perspective and found that the TRA provides a useful framework to predict intention to participate in organised recreational sport programs	Reyna & Farley (2006) question the assumption that human behaviour can be labelled as reasoned. The TRA is too rational and therefore fails to take into account compulsions, emotions and other non-cognitive or irrational determinants of human behaviour (Gibbons et al, 1998; van der Pligt & de Vries, 1998; Armitage et al, 1999)	Fishbein (2008) points out a weakness in the previous critique, as the TRA does not say anything about rationality and it also does not refute the role of emotions	Good	Good
	Fishbein (2008) - enables the explanation of why different background factors are or not related to a particular behaviour	Smedslund (2000), Greve (2001) & Ogden (2003) - the TRA does not meet Trafimow's falsifiable criteria (in order for a theory to be useful, there needs to be specific predictions drawn from it (Stanovich, 2012))	Trafimow (2009) - argues that the TRA has actually been falsified in some cases (e.g. Freud's theory), and may also be used to falsify other theories which have gone through the same scrutiny		
	Trafimow (2009) - for a theory to be considered a good theory it must be falsifiable. Falsifiability of a theory is the inherent possibility that it can be proven false (Popper, 1963). The TRA, along with the SCT, are falsifiable in regards to different elements such as the fact that every individual is different (Trafimow, 2009).				
Theory of Planned Behaviour (TPB)	Norman et al (1998): undergraduate students who indulged in excessive drinking - when adding the variable of gender to TPB variables, the variance in the frequency (38%) was explained	Hagger et al (2001) - the effectiveness of the TPB depends on the type of population utilised and that the young people from the sample differ in terms of cognitive predictors of behaviour in comparison to older people	Norman et al (1998) - positive control beliefs and behavioural control emerged as the independent predictors of the problem (binge drinking)	Strong	Strong
	Sheeran et al (2013) - does not include momentary emotional reactions and self-control, which are regarded as important when addressing behaviour	Should be regarded as a theory of "proximal determinants of behaviour" (Armitage & Conner, 1998, p1432), as it ignores other influencing variables on behaviour (Bagozzi, 1992; Eagly & Chaiken, 1993)	PBC emerged as a key predictor of behaviour in various different health domains, including physical activity (Hagger et al, 2001)		

	Hausenblas et al (1997) - exceeds the TRA in its predictive power		Armitage & Conner (2001), Albarracin et al (2001), Hagger et al (2002) and Downs & Hausenblas (2005) - across different health behaviours, the TPB enables for 20% or more of the observed behavioural variance		
	Sheehan et al (1996) - RCT on drink driving and found positive changes over time for passenger behaviour, but not for the driver		Hardeman et al (2002) - provide evidence of the limited gained additional health benefits of TPB based research		
Diffusion of Innovation Theory				Good	Weak
Programme Theory	<i>"a variety of ways of developing a causal modal linking programme inputs and activities to a chain of intended or observed outcomes"</i> (Rogers, 2008, p30), and subsequently using this model to guide the evaluation (Rogers et al, 2000)	Lipsey (1993) and Sedani & Sechrest (1999) - it is necessary to specify the predicted time of impact in Programme Theory, as otherwise results and interpretations may be misleading	Sharpe (2011) - event though Programme Theory requires time, manpower and money in order to examine the 'how' and 'why' of a programme's success or failure, the benefits of this method of evaluation are greater		
	Patton (1997) - demonstrates how a program may be defined, and how social interactions are extremely important in order to achieve successful results			N/A	N/A
	Rogers (2008)- Programme Theory evaluation provides a tool to monitor and evaluate, thus enabling a deeper understanding and better implementation of the intervention		Bakewell & Garbutt (2005) - contributes to the understanding of the process behind a project, and how the social interactions benefit its participants		
	Douthwaite et al (2003) - <i>"self-evaluation, and the learning it engenders, is necessary for successful project management in complex environments"</i> (p262)				

Appendix D –
Analysis of the behaviour and behaviour change
models (outside sport context)

Models					
	Positives	Limitations/Criticisms	Other Evidence	Predictive Power (Intention)	Predictive Power (Attitude and Behaviour Change)
Health Belief Model (HBM)	The HBM has different applications, including providing incentive to change their behaviour, providing a clear plan of action at an acceptable cost and enhancing the individual's feeling of self-worth and competency to follow through with actions (Hochbaum et al, 1952).	Relies heavily on health belief factors (Glanz et al, 2002), whilst there are other factors (cultural, socioeconomic status, life experiences and other special circumstances or influences) that influence health behaviour practices (Hochbaum et al, 1952)	Health related action (use of a condom) - an individual will take action (use contraceptive), provided he/she perceives that a negative health condition may be avoided or the risk reduced (i.e. HIV), the individual has a positive expectation from taking such action, and, he/she is confident of successfully completing the recommended action (Unversity of Twente, 2012)	Good	Weak
		Rosenstock (1974) - a more comprehensive model including cognitive antecedents could reveal the connection between health beliefs and other psychological stages in decision-making and action	Most of the research have utilised self-report measures of behaviour, however Bradley et al (1987) used physiological measures, Drayton et al (2002), used medical records and Hay et al (2003) used behavioural observations as outcome measures. The methods employed by most of the studies include self-completion questionnaires, telephone interviews (Grady et al, 1983) or structured face-to-face interviews (Volk & Koopman, 2001). Interviews could be regarded as an efficient tool to look at individual's perceptions and beliefs in more detail (Veal, 2011)		
Hierarchy of Effects Theory Model (HETM)		Solomon (1996) - the order of the different stages of the model	Janz and Becker's (1984) review found that 40% of identified HBM studies (n=18) were prospective. According to Field (2000), prospective studies are attributed significant importance due to the fact that simultaneous measurements of health beliefs and	Weak	Weak

			behaviour may be subject to social desirability and memory biases and do not allow for causal inferences.		
		Krugman (1966), Bem (1972), Kelley (1973), Ray et al (1973), Zajonc (1986) & Vaughn (1986) - developed the foundation for six different HETMs, with different adaptations, thus raising some questions as to which model is the most effective			
		Barry & Howard (1990) - the definition of cognition and affect has been a cause of concern			
Psychological Continuum Model (PCM)		Beaton et al (2009) - emphasises the limitations of the PCM by stating it has provided no empirical tests and has restricted conceptual discussions on how perceived constraints operate within the stage progression		Weak	Weak
Exercise Adoption Model (EAM)				Good	Weak
Transtheoretical Model (TTM)	Although Spencer et al (2002), based on a systematic review of 148 published peer reviewed articles, highlight that there is growing evidence of the validity of the TTM, <i>studies are yet inconclusive</i>	In health - heavily criticised and its usage for health gain has been branded as being counter-productive at times (Taylor et al, 2007)	Lach et al (2004) - model applied in health promotion, consisting of five stages of change. It was applied to a programme of older adults, and the findings were positive and included: " <i>useful and appropriate for application to health education with older adults for program planning, curriculum development, and program evaluation</i> " (p93)	Strong	Strong

		<p>Taylor et al (2007) - in the context of cessation of smoking, the TTM is doubtful and potentially misleading</p>			
		<p>Sheeran (2002) - although lack of intention most likely leads to lack of behaviour, positive intent does not necessarily guarantee a positive change in behaviour. Moreover, "the model is not clear on how individuals change or why some change more effectively or quickly than others" (Morris et al, 2012, p9)</p>			
		<p>West (2009) - the model is said to be one sided, as its focus is purely on the individual and fails to acknowledge factors such as social, environmental and economic. Factors which are known to have an influence in affecting "<i>an individual's ability to change behaviour</i>" (Morris et al, 2012, p10)</p>			
		<p>The above factors lie outside the model's boundaries (Morris et al, 2012). Therefore, West (2009) argues that the model underplays prime determinants of success at behaviour change such as addiction and habit</p>			

**Stimuli-
Organism-
Response
Model (S-O-R)**

Buxbaum (2016) - *"Can also be a useful reference system for the concept of personality and for subcategories such as education or personality traits"* (p8)

Strong

Good

Appendix E –
Email to England Hockey (Access to Event)

England Hockey

My name is Ricardo de Sousa and I am a PhD student from the Sport Industry Research Centre (SIRC) at Sheffield Hallam University, currently testing the Inspiration Effect of major sports events on attenders' sport and/or physical activity participation in the United Kingdom. The overall aim is to research the extent to which major sports events inspire young people aged 16-24 to increase their sport and/or physical activity levels in the United Kingdom, by measuring both attitudinal and behavioural changes (using a combination of the Transtheoretical Model and the Theory of Planned Behaviour) of the event attenders.

The research builds upon what UK Sport have been doing for the last 6 years, looking at how major sporting events can act as catalysts to motivate and increase someone's desire to change their attitude and behaviour towards participating in sport and physical activity. Sport England's 2016-2021 strategy has as some of its key changes investing more in children and young people to build positive attitudes towards sport and physical activity, but in addition encouraging innovation and share best practice through the application of practical learning and principles of behaviour change. Therefore, this PhD contributes towards the government's five outcomes.

The aim is to administer questionnaires to the attenders of the Women's Hockey World Cup in July, with the purpose of measuring the attenders sport and physical activity participation levels before and at the time of the event. Furthermore, this method seeks to identify the possible facilitating and mitigating factors of sport and/or physical activity participation. In addition, as part of the data collection, I would be grateful if I could have a conversation with the event organisers/stakeholders, in order to get some insight as to what strategies are in place to lever the major sporting event.

This research follows the General Data Protection Regulation (GDPR) and the Sheffield Hallam University Ethics Guidelines, thus ensuring anonymity and confidentiality of all the participants involved in the research. Participants will be asked in the questionnaire if they are willing to be contacted at a later date to respond to some additional questions, however, participants are given the option to not take part and/or opt out.

Kind regards,

Ricardo de Sousa, BA (Hons), MSc

PhD Student |

Sport Industry Research Centre | Sheffield Hallam University |

e: a7019469@my.shu.ac.uk | hwbrd7@exchange.shu.ac.uk t: 07917484215

**Appendix F –
Pre-Pilot and Pilot Study Questionnaires**

Appendix F1 – Pre-Pilot Study

Cliffhanger Festival Questionnaire

This questionnaire is part of a Sheffield Hallam University Doctoral study about the inspiration effect of attending major sports events, in particular looking at attitudinal and behavioural changes of event attendees. I would be grateful if you could spare a few minutes to complete this questionnaire. It will be completely anonymous and confidential. Please put a ✓ where required and/or write your answers in the space provided.

1. In the past 7 days have you participated in sport and/or physical activity?

Yes No (Go to Q4)

a) On how many days did you participate? days

b) How much time did you usually spend participating in sport and/or physical activity on each day that you took part?

hour min

c) Was the effort you put in to sport and/or physical activity usually Yes No enough to raise your breathing rate?

2. Which sport(s) and/or physical activity(ies) do you currently participate in? (Please tick all that apply)

Bouldering (Rock Climbing) Other sports (please specify) _____

 Physical Activity (please specify) _____

3. What are the ***REASONS*** for your participation in the above sport(s) and/or physical activity(ies)? (Please tick all that apply)

Support from friends, family & teammates Being advised by a doctor
 Fun & enjoyment Health & wellbeing Meeting new people
 Competition Participating with friends and /or family Other (please specify) _____

4. On a scale from 'Strongly Disagree' to 'Strongly Agree', please rate the following statements (Please tick):

	Strongly Disagree	Disagree	Agree	Strongly Agree
On the whole, I am satisfied with my ability to participate in Rock Climbing and/or general sport and physical activity successfully				
At times I think I am no good at Rock Climbing and/or general sport and physical activity				
I feel I have a number of good skills to successfully participate in Rock Climbing and/or general sport and physical activity				
I am able to play Rock Climbing and/or general sport and physical activity as well as most other people				
I feel I do not have much to be proud of in Rock Climbing and/or general sport and physical activity				
I certainly feel useless in Rock Climbing and/or general sport and physical activity at times				
I feel that I'm a person of worth, at least on an equal plane with others when participating in Rock Climbing and/or general sport and physical activity				
I wish I could have more respect for myself regarding my ability to successfully participate in Rock				

Climbing and/or general sport and physical activity				
All in all, I am inclined to feel that I am a failure in Rock Climbing and/or general sport and physical activity				
I take a positive attitude toward myself in successfully participating in Rock Climbing and/or general sport and physical activity				

5. On a scale from 'Strongly Disagree' to 'Strongly Agree', please rate the following statements (Please tick):

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Don't Know
My previous experience in Rock Climbing and general sport and/or physical activity was very positive						
	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't Know
I feel social pressure (by friends, family, etc) to participate in Rock Climbing and general sport and/or physical activity						
I feel the desire to participate in Rock Climbing and general sport and/or physical activity						
I recall information people have given to me regarding the benefits, consequences						

and opportunities of participating in Rock Climbing and general sport and/or physical activity						
I consider my participation in Rock Climbing and general sport and/or physical activity is beneficial to the people around me and to the overall environment (traffic, pollution, etc)						
I am likely to substitute inactive/ unhealthy activities for participation in Rock Climbing and general sport and/or physical activity						
I am able to generally avoid temptations to be inactive, and as a result add new reminders to do active alternatives						
I am aware of alternative free recreation activities available in your community which don't involve exercise						
Participating in Rock Climbing and general sport and/or physical activity positively impacts on my physical image						
I believe I have the support of my friends and family when I						

participate in Rock Climbing and general sport and/or physical activity						
I am committed towards participating in Rock Climbing and general sport and/or physical activity						
I react emotionally to recommendations or warnings about participating in Rock Climbing and general sport and/or physical activity						
I reward myself whenever I successfully manage to control the urge to be inactive/unhealthy, by taking part in more Rock Climbing and general sport and/or physical activity						
I believe the benefits of participating in Rock Climbing and general sport and/or physical activity outweigh the costs/negatives						

6. Prior to attending this event, were you planning over the next three months to...? (Please tick one box only)

- Increase the frequency of your participation in either Bouldering (Rock Climbing), other sports or active recreation
- Maintain the frequency of your participation in either Bouldering (Rock Climbing), other sports or active recreation
- Reduce the frequency of your participation in either Bouldering (Rock Climbing), other sports or active recreation
- Don't know / can't say

7. Which of these factors have/would HELP(ED) your participation in sport and/or physical activity? (Please tick any that apply)

- Support from friends, family and teammates Being advised by a doctor
 More time Available sporting & exercise opportunities
 Money Available transport Accessibility to sports facilities
 Information given to you Age Good health
 Other (please specify)_____

8. Which of these factors have/would PREVENT(ED) your participation in sport and/or physical activity? (Please tick all that apply)

- Age Lack of transportation Inaccessibility of sports facilities
 Lack of support from social group Poor health
 Cost
 Lack of time (includes childcare) Weather conditions
 Chances of injury Injury and/or behaviour of a role model in sport
 Other (please specify)_____

9. As a result of attending this event, do you feel INSPIRED to do sport or physical activity more frequently than you would normally? (Please tick)

- Yes No (Go to Q12) Don't know / Can't say (Go to 12)

10. In which of the following do you feel INSPIRED to participate more frequently? (Please tick any that apply)

- Rock Climbing In another sport In physical activity generally

11. Which of these factors have made you feel INSPIRED to do more sport and/or physical activity?

- The overall event atmosphere The event venue
 The quality of the competition The skill/ability of the athletes
 The performance of the athletes I supported
 Activities that took place around the main event
 Information I received at the event
 Other (please specify)_____

12. Do you currently participate in other recreational activities? (Please tick all that apply)

- Dance Arts Music Other (please specify)_____ No

13. Have you received any information during the before and/or during the event about potential opportunities for participation in sport and/or physical activity? (Please tick)

- Yes No (Go to Q15)

14. What kind of information did you receive? (Please tick all that apply)

- Opportunities for participation in showcased sport(s)
 Opportunities for participation in other sports
 Opportunities for beginners
 Opportunities for people already participating
 Sport programmes Other(s) (please specify)_____
-

15. Do you have a long term illness or impairment which limits your daily activities? (Please tick)

- Yes No

16. What is your perception of the current state of your HEALTH? (Please circle)

- Very Poor Poor Fair Good Very Good

17. Are you? Male Female

18. How old are you? years

19. How would you describe your ethnic origin? White

Mixed

Asian/Asian British

Black/Black British

Other (please

specify)_____

20. Do you have any children? Yes No If 'Yes', how many? (please specify) _____

21. Which of the following best describes your current situation? (Please tick)

- Working full-time (30+ hours a week) Working part-time (less than 30 hours a week)
 Housewife/husband full-time in the home Retired - company/personal pension
 Retired - state pension only Temporarily unable to work (e.g. ill)
 Permanently unable to work (due to illness/disability)
 Unemployed - 6 months or more Unemployed - less than 6 months
 In full-time education (School) Full-time student (college/university)
 Never worked None of these
 Refuse to say

22. Where is your current residence? Sheffield

UK (please provide first part of postcode)_

Outside the UK (please specify)_____

23. Can we contact you again in the future to ask you some more questions about your sports participation?

Yes No If 'Yes', please provide your email address:_____

Thank you very much for your time filling out this research questionnaire! Enjoy the event! 😊

Appendix F2 – Pilot Study

Sheffield Cycling Grand Prix Questionnaire

This questionnaire is part of a Sheffield Hallam University Doctoral study about the inspiration effect of attending major sports events, in particular looking at attitudinal and behavioural changes of event attenders. I would be grateful if you could spare a few minutes to complete this questionnaire. It will be completely ANONYMOUS and CONFIDENTIAL. Please put a where required and/or write your answers in the space provided.

1. In the past 7 days have you participated in sport and/or physical activity?

Yes No (Go to Q2)

a) On how many days did you participate? day(s)

b) How much time did you usually spend participating in sport and/or physical activity on each day that you took part?

hour(s) min(s)

c) Was the effort you put in to sport and/or physical activity usually

Yes No

enough to raise your breathing rate?

2. Which sport(s) and/or physical activity(ies) do you currently participate in? (Please tick all that apply)

Cycling Other sports (please specify) _____

Physical Activity (please specify) _____

None

3. What are the REASONS for your participation in the above sport(s) and/or physical activity(ies)? (Please tick all that apply)

Support from friends, family & teammates Being advised by a doctor

Fun & enjoyment Health & wellbeing Meeting new people
 Competition Participating with friends and /or family
 Other (please specify) _____

4. On a scale from 'Strongly Disagree' to 'Strongly Agree', please rate the following statements (in relation to others of equal or similar age to yours) (Please tick):

	Strongly Disagree	Disagree	Agree	Strongly Agree
On the whole, I am satisfied with my ability to participate in Cycling and/or general sport and physical activity successfully				
At times I think I am no good at Cycling and/or general sport and physical activity				
I feel I have a number of good skills to successfully participate in Cycling and/or general sport and physical activity				
I am able to play Cycling and/or general sport and physical activity as well as most other people				
I feel I do not have much to be proud of in Cycling and/or general sport and physical activity				
I certainly feel useless in Cycling and/or general sport and physical activity at times				
I feel that I'm a person of worth, at least on an equal plane with others of my age when participating in Cycling and/or general sport and physical activity				
I wish I could have more respect for myself regarding my ability to successfully participate in Cycling				

and/or general sport and physical activity				
All in all, I am inclined to feel that I am a failure in Cycling and/or general sport and physical activity				
I take a positive attitude toward myself in successfully participating in Cycling and/or general sport and physical activity				

5. On a scale from 'Strongly Disagree' to 'Strongly Agree', please rate the following statements (Please tick):

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Don't Know
My previous experience in Cycling and general sport and/or physical activity was very positive						
I feel social pressure (by friends, family, etc) to participate in Cycling and general sport and/or physical activity						
	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't Know
I feel the desire to participate in Cycling and general sport and/or physical activity						

<p>I recall information people have given to me regarding the benefits, consequences and opportunities of participating in Cycling and general sport and/or physical activity</p>						
<p>I consider my participation in Cycling and general sport and/or physical activity is beneficial to the people around me and to the overall environment (traffic, pollution, etc)</p>						
<p>I am likely to substitute inactive/unhealthy activities for participation in Cycling and general sport and/or physical activity</p>						
<p>I am able to generally avoid temptations to be inactive, and as a result add new reminders to do active alternatives</p>						
<p>I am aware of alternative free recreation activities available in your community which don't involve exercise</p>						
<p>Participating in Cycling and general sport and/or physical activity positively impacts on my physical image</p>						

I believe I have the support of my friends and family when I participate in Cycling and general sport and/or physical activity						
I am committed towards participating in Cycling and general sport and/or physical activity						
I react emotionally to recommendations or warnings about participating in Cycling and general sport and/or physical activity						
I reward myself whenever I successfully manage to control the urge to be inactive/unhealthy, by taking part in more Cycling and general sport and/or physical activity						
I believe the benefits of participating in Cycling and general sport and/or physical activity outweigh the costs/negatives						

6. Prior to attending this event, were you planning over the next three months to...? (Please tick one box only)

- Increase the frequency of your participation in either Cycling, other sports or active recreation
- Maintain the frequency of your participation in either Cycling, other sports or active recreation

- Reduce the frequency of your participation in either Cycling, other sports or active recreation
- Don't know / can't say

7. Which of these factors have/would HELP(ED) your participation in sport and/or physical activity? (Please tick any that apply)

- Support from friends, family and teammates
- Being advised by a doctor
- More time
- Available sporting & exercise opportunities
- Money
- Available transport
- Accessibility to sports facilities
- Information given to you
- Age
- Good health
- Other (please specify)_____

8. Which of these factors have/would PREVENT(ED) your participation in sport and/or physical activity? (Please tick all that apply)

- Age
- Lack of transportation
- Inaccessibility of sports facilities
- Lack of support from social group
- Poor health
- Cost
- Lack of time (includes childcare)
- Weather conditions
- Chances of injury
- Injury and/or behaviour of a role model in sport
- Other (please specify)

—

9. As a result of attending this event, do you feel INSPIRED to do sport or physical activity more frequently than you would normally? (Please tick)

- Yes
- No (Go to Q12)
- Don't know / Can't say (Go to 12)

10. In which of the following do you feel INSPIRED to participate more frequently? (Please tick any that apply)

- Cycling
- In another sport (please specify)_____
- In physical activity generally

11. Which of these factors have made you feel INSPIRED to do more sport and/or physical activity?

- The overall event atmosphere
- The event venue
- The quality of the competition
- The skill/ability of the athletes
- The performance of the athletes I supported
- Information I received at the event
- Activities that took place around the main event
- Other (please specify)_

12. Do you currently participate in other recreational activities? (Please tick all that apply)

- Dance Arts Music Other (please specify)_____
- No

13. Have you received any information before and/or during the event about potential opportunities for participation in sport and/or physical activity? (Please tick)

- Yes (Before) Yes (During) Yes (Before & During) No (Go to Q15)

14. What kind of information did you receive? (Please tick all that apply)

- Opportunities for participation in Cycling
- Opportunities for participation in other sports
- Opportunities for beginners Opportunities for people already participating
- Sport programmes Other(s) (please specify)_____
-

15. Do you have a long term illness or impairment which limits your daily activities? (Please tick)

- Yes No

16. What is your perception of the current state of your HEALTH? (Please tick)

- Very Poor Poor Fair Good Very Good

17. Are you? Male Female

18. How old are you? years

19. How would you describe your ethnic origin? White Mixed

- Asian/Asian British Black/Black British
- Other (please specify)_____

20. Do you have any children? Yes No If 'Yes', how many? (please specify) _____

21. Which of the following best describes your current situation? (Please tick)

- Working full-time (30+ hours a week)
- Working part-time (less than 30 hours a week)
- Housewife/husband full-time in the home Retired - company/personal pension

- Retired - state pension only Temporarily unable to work (e.g. ill)
 Permanently unable to work (due to illness/disability)
 Unemployed - 6 months or more Unemployed - less than 6 months
 In full-time education (School) Full-time student (college/university) Never worked None of these
 Refuse to say

- 22. Where is your current residence?** Sheffield
 UK (please provide ONLY the FIRST part of postcode)_
 Outside the UK (please specify)_____

- 23. Can we contact you again in the future to ask you some more questions about your sports participation?**
 Yes No If 'Yes', please provide your email address:_____

Thank you very much for your time filling out this research questionnaire! Enjoy the event! 😊

**Appendix G –
During-Event and Post-Event Questionnaires**

Appendix G1 – During-Event

Vitality Hockey Women's World Cup Questionnaire

This questionnaire is part of a Sheffield Hallam University Doctoral study about the inspiration effect of attending major sports events, in particular looking at attitudinal and behavioural changes of event attenders. I would be grateful if you could spare a few minutes to complete this questionnaire. It will be completely ANONYMOUS and CONFIDENTIAL. Please put a where required and/or write your answers in the space provided.

1. In the past 7 days have you participated in sport and/or physical activity?

Yes No (Please go to Q2)

a) On how many days did you participate? day(s)

b) How much time did you usually spend participating in sport

and/or physical activity on each day that you took part? hour(s)

min(s)

c) Was the effort you put in to sport and/or physical activity usually Yes

No

enough to raise your breathing rate?

2. Which sport(s) and/or physical activity(ies) do you currently participate in? (Please tick all that apply)

Hockey Other sports (please specify) _____

_____ Physical Activity (please specify) _____

3. What are the REASONS for your participation in the above sport(s) and/or physical activity(ies)? (Please tick all that apply)

Support from friends, family & teammates Being advised by a doctor Fun & enjoyment Health & wellbeing Meeting new people Competition Participating with friends and /or family Other (please specify) _____

4. On a scale from 'Strongly Disagree' to 'Strongly Agree', please rate the following statements (Please tick):

	Strongly Disagree	Disagree	Agree	Strongly Agree
On the whole, I am satisfied with my ability to participate in Hockey and/or general sport and physical activity successfully				
At times I think I am no good at Hockey and/or general sport and physical activity				
I feel I have a number of good skills to successfully participate in Hockey and/or general sport and physical activity				
I am able to play Hockey and/or general sport and physical activity as well as most other people				
I feel I do not have much to be proud of in Hockey and/or general sport and physical activity				
I certainly feel inadequate in Hockey and/or general sport and physical activity at times				
I feel that I'm a person of value, at least on an equal plane with others of my age when participating in Hockey and/or general sport and physical activity				
I wish I could have more respect for myself regarding my ability to successfully participate in Hockey and/or general sport and physical activity				
All in all, I am inclined to feel that I am a failure in Hockey and/or general sport and physical activity				

I take a positive attitude toward myself in successfully participating in Hockey and/or general sport and physical activity				
---	--	--	--	--

5. On a scale from 'Strongly Disagree' to 'Strongly Agree', please rate the following statements (Please tick):

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Don't Know
My previous experience in Hockey and general sport and/or physical activity was very positive						
I feel social pressure (by friends, family, etc) to participate in Hockey and general sport and/or physical activity						
	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't Know
I feel the desire to participate in Hockey and general sport and/or physical activity						
I recall information people have given to me regarding the benefits, consequences and opportunities of participating in Hockey and general sport and/or physical activity						
I consider my participation in Hockey and general sport and/or physical activity is beneficial to the people around me and to the overall environment (traffic, pollution, etc)						

I am likely to substitute inactive/unhealthy activities for participation in Hockey and general sport and/or physical activity						
I am able to generally avoid temptations to be inactive, and as a result add new reminders to do active alternatives						
I am aware of alternative free recreation activities available in your community which don't involve exercise						
Participating in Hockey and general sport and/or physical activity positively impacts on my physical image						
I believe I have the support of my friends and family when I participate in Hockey and general sport and/or physical activity						
I am committed towards participating in Hockey and general sport and/or physical activity						
I react emotionally to recommendations or warnings about participating in Hockey and general sport and/or physical activity						
I reward myself whenever I successfully manage to control the urge to be inactive/unhealthy, by						

taking part in more Hockey and general sport and/or physical activity						
I believe the benefits of participating in Hockey and general sport and/or physical activity outweigh the costs/negatives						

6. Prior to attending this event, were you planning over the next three months to...? (Please tick one box only)

- Increase the frequency of your participation in either Hockey, other sports or active recreation
- Maintain the frequency of your participation in either Hockey, other sports or active recreation
- Reduce the frequency of your participation in either Hockey, other sports or active recreation
- Don't know / can't say

7. Which of these factors have/would HELP(ED) your participation in sport and/or physical activity? (Please tick any that apply)

- Support from friends, family and teammates Being advised by a doctor
- More time Available sporting & exercise opportunities
- Money Available transport Accessibility to sports facilities
- Information given to you Age Good health
- Other (please specify)_____

8. Which of these factors have/would PREVENT(ED) your participation in sport and/or physical activity? (Please tick all that apply)

- Age Lack of transportation Inaccessibility of sports facilities
- Lack of support from social group Poor health Cost
- Lack of time (includes childcare) Weather conditions
- Chances of injury Injury and/or behaviour of a role model in sport
- Other (please specify)_____

9. As a result of attending this event, do you feel INSPIRED to do sport or physical activity more frequently than you would normally? (Please tick)

- Yes No (Go to Q12) Don't know / Can't say (Please go to Q12)

10. In which of the following do you feel ***INSPIRED*** to participate more frequently? (Please tick any that apply)

- Hockey In another sport In physical activity generally

11. Which of these factors have made you feel ***INSPIRED*** to do more sport and/or physical activity? (Please tick any that apply)

- The overall event atmosphere The event venue The quality of the competition
 The skill/ability of the athletes The performance of the athletes I supported
 Activities that took place Information I received at the event
 Other (please specify) _____ around the main event

12. Do you currently participate in other recreational activities? (Please tick all that apply)

- Dance Arts Music Other (please specify) _____ No

13. Have you received any information before and/or during the event about potential opportunities for participation in sport and/or physical activity? (Please tick)

- Yes (Before) Yes (During) Yes (Before & During)
 No (Go to Q15)

14. What kind of information did you receive? (Please tick all that apply)

- Opportunities for participation in Hockey Opportunities for participation in other sports
 Opportunities for beginners Opportunities for people already participating
 Sport programmes Other(s) (please specify) _____

15. Do you have a long term illness or impairment which limits your daily activities? (Please tick)

- Yes No

16. What is your perception of the current state of your ***HEALTH***? (Please tick)

- Very Poor Poor Fair Good Very Good

17. Are you? Male Female

18. How old are you? years

19. How would you describe your ethnic origin? White Mixed
 Asian/Asian British Black/Black British
 Other (please specify) _____

20. Do you have any children? Yes No If 'Yes', how many? (please specify) _____

21. Which of the following best describes your current situation? (Please tick)

Working full-time (30+ hours a week) Working part-time (less than 30 hours a week)

Housewife/husband full-time in the home Retired - company/personal pension

Retired - state pension only Temporarily unable to work (e.g. ill)

Permanently unable to work (due to illness/disability) Unemployed - 6 months or more Unemployed - less than 6 months In full-time education (School)

Full-time student (college/university) Never worked

None of these Refuse to say

22. Where is your current residence? London

UK (please provide ONLY the FIRST part of postcode) _____

Outside the UK (please specify) _____

23. Can we contact you again in the future to ask you some more questions about your sports participation?

Yes No If 'Yes', please provide your email address: _____

Thank you very much for your time filling out this research questionnaire! Enjoy the event! 😊

Appendix G2 - Post-Event

Vitality Hockey Women's World Cup Questionnaire

This questionnaire is part of a Sheffield Hallam University Doctoral study about the inspiration effect of attending major sports events, in particular looking at attitudinal and behavioural changes of event attenders. I would be grateful if you could spare a few minutes to complete this questionnaire. It will be completely ANONYMOUS and CONFIDENTIAL. Please put a where required and/or write your answers in the space provided.

1. In the past 7 days have you participated in sport and/or physical activity?

Yes No (Please go to Q2)

a) On how many days did you participate? day(s)

b) How much time did you usually spend participating in sport

and/or physical activity on each day that you took part? hour(s)

min(s)

c) Was the effort you put in to sport and/or physical activity usually Yes

No

enough to raise your breathing rate?

2. Which sport(s) and/or physical activity(ies) do you currently participate in? (Please tick all that apply)

Hockey Other sports (please specify) _____

Physical Activity (please specify) _____

3. What are the REASONS for your participation in the above sport(s) and/or physical activity(ies)? (Please tick all that apply)

Support from friends, family & teammates Being advised by a doctor Fun & enjoyment Health & wellbeing Meeting new people Competition Participating with friends and/or family Other (please specify) _____

4. On a scale from 'Strongly Disagree' to 'Strongly Agree', please rate the following statements (Please tick):

	Strongly Disagree	Disagree	Agree	Strongly Agree
On the whole, I am satisfied with my ability to participate in Hockey and/or general sport and physical activity successfully				
At times I think I am no good at Hockey and/or general sport and physical activity				
I feel I have a number of good skills to successfully participate in Hockey and/or general sport and physical activity				
I am able to play Hockey and/or general sport and physical activity as well as most other people				
I feel I do not have much to be proud of in Hockey and/or general sport and physical activity				
I certainly feel inadequate in Hockey and/or general sport and physical activity at times				
I feel that I'm a person of value, at least on an equal plane with others of my age when participating in Hockey and/or general sport and physical activity				
I wish I could have more respect for myself regarding my ability to successfully participate in Hockey and/or general sport and physical activity				
All in all, I am inclined to feel that I am a failure in Hockey and/or general sport and physical activity				

I take a positive attitude toward myself in successfully participating in Hockey and/or general sport and physical activity				
---	--	--	--	--

5. On a scale from 'Strongly Disagree' to 'Strongly Agree', please rate the following statements (Please tick):

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Don't Know
My previous experience in Hockey and general sport and/or physical activity was very positive						
I feel social pressure (by friends, family, etc) to participate in Hockey and general sport and/or physical activity						
	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Don't Know
I feel the desire to participate in Hockey and general sport and/or physical activity						
I recall information people have given to me regarding the benefits, consequences and opportunities of participating in Hockey and general sport and/or physical activity						
I consider my participation in Hockey and general sport and/or physical activity is beneficial to the people around me and to the overall environment (traffic, pollution, etc)						

I am likely to substitute inactive/unhealthy activities for participation in Hockey and general sport and/or physical activity						
I am able to generally avoid temptations to be inactive, and as a result add new reminders to do active alternatives						
I am aware of alternative free recreation activities available in your community which don't involve exercise						
Participating in Hockey and general sport and/or physical activity positively impacts on my physical image						
I believe I have the support of my friends and family when I participate in Hockey and general sport and/or physical activity						
I am committed towards participating in Hockey and general sport and/or physical activity						
I react emotionally to recommendations or warnings about participating in Hockey and general sport and/or physical activity						
I reward myself whenever I successfully manage to control the urge to be inactive/unhealthy, by						

taking part in more Hockey and general sport and/or physical activity						
I believe the benefits of participating in Hockey and general sport and/or physical activity outweigh the costs/negatives						

6. Prior to attending this event, were you planning over the next three months to...? (Please tick one box only)

- Increase the frequency of your participation in either Hockey, other sports or active recreation
- Maintain the frequency of your participation in either Hockey, other sports or active recreation
- Reduce the frequency of your participation in either Hockey, other sports or active recreation
- Don't know / can't say

7. Which of the following statements best describes the amount of sport / physical activity you are doing now? (Please tick X one box only)

- I'm doing more sport/physical activity now than I was before I attended the 2018 Women's Hockey World Cup
- I'm doing about the same amount of sport/physical activity as I was before I attended the 2018 Women's Hockey World Cup **(Please go to Q8)**
- I'm doing less sport/physical activity now than I was before I attended the 2018 Women's Hockey World Cup **(Please go to Q8)**
- Don't know / Can't say **(Please go to Q8)**

8. To what extent would you say that your attendance at the 2018 Women's Hockey World Cup in London, has been influential in leading you to undertake more sport/physical activity now, than you were doing before the event? (Please tick X one box only)

- Very influential Moderately influential Slightly influential Not at all influential Don't know

9. Did you receive any information AFTER the 2018 Women's World Cup Hockey about potential opportunities for participation in sport and/or physical activity? (Please X)

- Yes No **(Please go to Q10)**

10. What kind of information did you receive? (Please X all that apply)

- Opportunities for participation in Hockey Opportunities for participation in other sports Opportunities for beginners Opportunities for people already participating Sport programmes
- Other(s) (please specify)

11. Do you currently participate in other recreational activities? (Please tick all that apply)

- Dance Arts Music Other (please specify) _____ No

12. Have you received any information before and/or during the event about potential opportunities for participation in sport and/or physical activity? (Please tick)

- Yes (Before) Yes (During) Yes (Before & During)
- No (Go to Q15)

13. What kind of information did you receive? (Please tick all that apply)

- Opportunities for participation in Hockey Opportunities for participation in other sports
- Opportunities for beginners Opportunities for people already participating
- Sport programmes Other(s) (please specify) _____
- _____

14. What is your perception of the current state of your HEALTH? (Please tick)

- Very Poor Poor Fair Good Very Good

**Appendix H–
Data Collection Field Notes**

21st - 22nd of July 2018

I managed to get just over 50 questionnaires completed over the 2 days (which is well below what I had set out to collect), as on the first day I used 5 clipboards (3 SIRC and 2 my own), however on the second day I used 9 clipboards (4 SIRC and 5 my own). What I found was that due to the specific strategy we were all enforcing (only hand out surveys during the big breaks), it was only possible to get one or maybe two rounds on occasion of questionnaires during those breaks. I regretted not having started with 9 clipboards from the very beginning; however, I wasn't sure at that time whether more would be manageable, so I stuck to the number of clipboards that the rest of the team were also adopting.

Initially I targeted attendees who looked between the ages of 16-24, however I found that on the first day, not many were around (mainly kids and parents/25+ adults). The second day was more productive as a whole and I managed to get a few more 16-24-year olds (total number of 16-24-year olds = 38%). Nevertheless, I also administered my questionnaires to other age groups to bolster my sample.

Overall, most people I approached were happy to help me out and therefore filled my questionnaire. But I did feel that there were not enough big breaks during games to get a bigger sample, and whilst the post-game breaks were significantly longer, the stands would not be as full until about 15 minutes until the start of the match (only a portion of people remained seated until the following match).

25th - 26th of July 2018

The first day was very productive in my opinion as there were lots of people gathering in the stands an hour before the first game was due to begin (as England were playing in the last game of the day, so I managed to get a good head start (29 questionnaires in the 55 minutes prior to the start of the first game).

My total for the first day was 62 however I was pushing really hard to get 75, but that just looked overly ambitious. My response rate was excellent, as I only received one or two rejections.

Nevertheless, the second day proved to be one of increased difficulty, as the stands were considerably empty until about 15 minutes to the start of the first game. This made my life extremely difficult in trying to match my previous figures, but despite these barriers, I managed to collect 55 questionnaires. Again, not quite what I was aiming for, but it was the best I could do (I had two or three rejections if I can remember correctly). After careful reflection, obtaining 55 questionnaires on 26th of July was very good.

My strategy was kept to the utilisation of 9 clipboards, as if I had used less during the breaks, I would not have collected anywhere near the numbers I achieved (as there were only two games being played on each day). I found that timings varied considerably with regards to the completion of the questionnaire, as some managed to complete in about 4/5 minutes and some took much longer. Yesterday was one of those days where the majority of the people I surveyed took a long time.

1st - 5th of August 2018

I changed my strategy on occasion as I wanted to maximise my efficiency, knowing perfectly well that I only had specific windows of opportunity to hand-out the questionnaires. Throughout the event I kept the usage of 9 clipboards, and the maximum I managed to collect was 70 questionnaires in one day, whilst the other days I managed 65, 67 and 52 in the final day. Some days started slower than others, however I kept challenging myself to achieve the maximum possible.

1st of August - Germany vs Spain

The distribution of questionnaires pre-game has been quite slow. People are very scattered, making it hard to hand out questionnaires. I managed 18 questionnaires even though stands were quite empty. I targeted two different sections and managed 9 clipboards on each. Stands started to fill up close to the start of the game.

I targeted bigger groups during the break between games and managed to get the number up to 61 questionnaires.

2nd of August – Ireland vs India & Netherlands vs England

There was a big crowd for both games and therefore I managed to distribute a considerable number of questionnaires. As I had short time periods to hand-out the questionnaires, and the stands were full, it was significantly difficult to sit near some areas due to the lack of seats, or the danger of obstructing the attendees' view. I targeted specific areas which would facilitate the questionnaire completion, and reduce the risk of losing any clipboards and/or blocking any of the spectators' views.

4th of August – Semi-Final 1 + 2

Administered 29 questionnaires in one hour. People asked me questions which slowed me down. As much as I wanted to not answer too many questions, I wanted to be polite and grateful for the fact that they were taking some time during their event break to complete my questionnaire. Overall, I managed 67 questionnaires. I was able to avoid the areas where SIRC were also surveying.

5th of August - 3rd Place & Final

Used a different strategy as the upper west stand was getting very full, which meant it was quite difficult to get the clipboards back. I waited until people sat down and during halftime approached spectators and then made my way down and across the stands. I managed to get over 50 - some asked me if they could fill one out and some had already been targeted by SIRC. Overall, I was able to achieve over 400 questionnaires throughout the event.

For the final day, whilst it proved to be a low number in comparison to previous attempts, it was very good as the conditions in the final day were difficult. Whilst it may seem that having a full stadium (or close to full capacity) is the most desired setting, when it comes to administering questionnaires, it is logistically very challenging. There were occasions where the participant would have to change seats (moving to a completely different section), or the seats next to the participant would be taken shortly after, making it hard to claim the questionnaire back.

In general, most of the people I approached were very willing to complete my questionnaire, including some people who were very interested in my research.

I was able to collect a total of 423 questionnaires, however from 3-4 questionnaires were incomplete. I have not yet gone through all of the questionnaires, so there may be a few more that pop up. Nevertheless, I don't believe it will be more than 10 incompletes overall.

Overall evaluation:

Overall, I believe that my strategy change worked in my favour and enabled the maximisation of questionnaire distribution. Nevertheless, the questionnaire was

too long on average to complete in such a short timeframe. This would not have been so much of an issue if there were more breaks during the event, however, due to the nature of the Hockey World Cup, the stands were considerably empty during specific periods of the day. I found the attenders to be generally very friendly and willing to help me with my PhD research, with a portion being genuinely interested in my research area.

Still, despite all of the challenges I encountered during the data collection, I believe I did the very best, using all of my available resources to maximise the number of complete questionnaires.

**Appendix I –
England Hockey and UK Sport Interview Transcripts**

England Hockey Interview 1

Ricardo de Sousa: This will be an anonymous interview, so names will not be used, so all the information given will be used for research purposes only. What I'm trying to find out is what exactly did England Hockey do to Leverage the women's World Cup hockey to increase sport and physical activity participation? A major sporting event is an event that typically attracts a significant number of attendees, **what was your overall focus when planning to host the Women's Hockey World Cup?**

England Hockey Interviewee 1: Sure, so there are four main objectives overall, there is also small objectives beneath each one but on the whole one of the things that we wanted to do is increase the visibility of the sport throughout the country. As you probably know that Hockey is not the number one Sport and the UK, so that was one of the things that we wanted to do: **increase the visibility of our Sport so that we were the number one Sport for this year.** So that involved everything from **getting on television, getting on newspapers, getting on social media, getting in the media, and obviously putting on a great event.** So that was one of the objectives. Another one was to **provide a world-class event experience to all of our client groups.**

Ricardo de Sousa: Okay.

England Hockey Interviewee 1: Our **main client groups**, well the first one which I was responsible for in my role was **spectators**. So, they are obviously a very valuable client group, because obviously pay a lot of money to come to our event so they want to have a really good time. So, they are probably our main group due to **their sheer volume and their importance in achieving the other objectives which is obviously financial, as we have spent a lot of money putting on this event**, so we require a significant amount of them come from **ticket sales, from retail, other conditions and sponsorship to make the**

event break-even. that was another main objective. Going back to the client groups, we had obviously our VIPs, we had our teams, we had our officials which were a really important client group, and of course our sponsors. so, we had individuals within the organisation looking after these people and tasked with ensuring a great performance. So certainly, just to reiterate that a world-class experience for all those client groups was also an objective. Finally, another **objective was increasing participation in the build-up during and post-World Cup as well.**

Ricardo de Sousa: Okay. That's good. So, leading on from what you just said in terms of the leveraging, what specifically did you implement pre, during and post-event. **What specific strategies did you implement to leverage that impact?**

England Hockey Interviewee 1: Sure, so there was an **initiative called 'Your World Cup'** which ran alongside the planning and delivery of the World Cup. So effectively that was a **clubs and participation tool that we used,** so we **gathered a number of resources, our Development Team spent time within going to clubs around England to prepare them for the World Cup in a number of different ways so that would be things like ensuring they had their websites up-to-date, that they were either promote in the World Cup through showing the matches on television at the clubs, put on additional coaching sessions and come and try it sessions if you will.** So that was a separate, I mean not a separate initiative an initiative that **was being run alongside the planning of the event,** and as I said the **aim to that was to empower the clubs to harness the World Cup, to help increase their own Club life and participation of hockey within their Club,** because ultimately the clubs are the biggest promoters of the sport, so they are the ones that ultimately, well there's obviously England Hockey that oversee that, but they are individually the biggest promoters of the sport. So, **our idea was to empower the clubs as much as possible through different online resources, through publishing some equipment as well which clubs could buy off of us, and obviously**

make sure that we contacted all the clubs to put on smaller events during the World Cup which would encourage people to produce paid and indeed watch the World Cup from that location.

Ricardo de Sousa: Okay. So in regards to during the event, so when the event was actually taking place, what did you implement, or what did you have going on in terms of that leveraging aspect at the time of the event itself?

England Hockey Interviewee 1: So, we had, did you attend the World Cup at all sorry Ricardo?

Ricardo de Sousa: I did, I went to do research, but I was mainly around the main venue.

England Hockey Interviewee 1: Okay, you would have probably seen Fan Central then.

Ricardo de Sousa: Yes.

England Hockey Interviewee 1: so, **Fan Central was effectively the vehicle we used to drive the element of the event.** We had an area within Fan Central called the **Hockey Zone, so within that we had a number of different hockey activations such as we installed a level professional small sided hockey pitch well we could not only host things like play but also different elements of hockey to Showcase a number of different products. There was Walking Hockey for example, we had a Flyer Festival where we had people with disabilities playing hockey as well on that location as well which is obviously positive, and a number of activations within that area so things like, you probably saw, the hockey shy which is a coconut shy but with a twist of obviously hockey, and a few other similar different styles, not necessarily traditional hockey but other ways that people can pick up a**

stick and play effectively. Obviously that was to try can draw the Spectators in to have some fun, but also the volunteering work force on the ground level were tasked with and supported by our staff as well to educate the different people in the different ways that they could play hockey after the event, and the clubs closest to them, the facilities closest to them. It was obviously about having fun at the event and engaging people through playing and also the opportunity to get that one to one interaction with a large number of people. We had over 90000 people attend Fan Central across the whole event so it was a really good reach of people that we could talk to on a face-to-face level. So that would be what was happening on event during the World Cup and again this was supported by the two info stations. So, there was one info station on Fan Central and one in the Arena.

Ricardo de Sousa: Oh okay.

England Hockey Interviewee 1: and again we had the Hockey Makers and the development staff positioned there every day, and again there was the leaflets and resources there about ways to play after the World Cup along the lines of what I already mentioned such as your closest club, facilities, the different modes of hockey you know walking hockey. That's what we did on at event.

Ricardo de Sousa: Okay, that sounds good. Moving on to the next question, current research shows that the majority of the attenders of major sporting events are considered to be active sport and/or physical activity participants, **do you have any strategies/activities implemented that enable non-active attenders to learn more about opportunities in Hockey? If yes, please elaborate on these.**

England Hockey Interviewee 1: Well obviously like a lot of other sports in this country and other governing bodies in this country **we try and reach that**

inactive group of people. It is quite difficult for hockey because we effectively only speak to our clubs, we don't have individual affiliation, so unlike some Sports where an individual will become a member of the National governing body, we affiliate clubs. Strategies aimed specifically at inactive people was very few, the one that we have is called 'back to hockey', and that is not necessarily related to the World Cup, that is just an England Hockey initiative that has been going on for quite some time now but it is effectively encouraging those who may be played 10-15 years ago or even longer to come back and pick up a stick in the less formal environment than strict training and club regimes. So again, we try and empower the clubs across the country to deliver these (the various clubs around England) so to be honest we don't particularly, apart from that one I mentioned, target inactive participants.

Ricardo de Sousa: So that was more of an ongoing strategy and are really related to the World Cup then? or did you emphasise that particular strategy at the World Cup at all.

England Hockey Interviewee 1: Not particularly, with that sort of tactic if you will of 'back to hockey' irrespective of the World Cup.

Ricardo de Sousa: Okay. Were there any strategies/activities you implemented which enable active major sport event attenders to further positively change their attitude and behaviour towards Hockey? If yes, please elaborate on these.

England Hockey Interviewee 1: Again, nothing to different from what I have already elaborated on a few minutes ago to be perfectly honest. We've got those activities that we've put on at Fan Central, and the aforementioned wider strategies. the only other thing related to the World Cup were the event Sponsors and Partners that we had on board. So, Vitality, Jaffa, Adidas, and we tried to Leverage their brand as well to our hockey family, again to try and

infer that positive attitude change to the Sport using their brand. So, it was a bit of a twofold approach because obviously they want to brand recognition so they can increase their awareness and sell their goods and services essentially, but obviously we don't let these people speak to our people without a joint approach. So we have a combined message as opposed to buy this good or service, where you buy this good or service and it can improve your hockey and how you play. So, Adidas provide equipment, clothing, Vitality things like health insurance, life insurance, and again these are important things for people that play hockey, because they may need, certainly the equipment side of things, but also the insurance element too.

Ricardo de Sousa: So basically, were there deals on specifically for those who attended the World Cup, so Adidas, would they give a discount if they went to buy equipment and would the insurance give people a percentage off?

England Hockey Interviewee 1: Yeah, there were special discount applicable to those who purchased tickets for the World Cup.

Ricardo de Sousa: A major aspect of sport and physical activity participation is the potential health benefits; do you have any partnerships where the organisations come to this event and provide further information regarding the positives of participation in Hockey?

England Hockey Interviewee 1: Obviously the event sponsors that I mentioned are actually partners of England hockey as well. So not only do they sponsor the event that we actually have a long-term partnership with those companies as well. in addition to the World Cup rights package we also have an England hockey rights package, we work as a partnership to deliver each other's company objectives effectively. So, **Vitality** being an example of being all about positive health and healthy living which is obviously why were such a good fit with them as well. So, they certainly again **get opportunities to speak to our members to**

promote their goods and services in line with our own strategic objectives as well. So, there is a lot of healthy living promotion as well. You mentioned you've got Sport England, UK Sport which we obviously work closely with on that front also. I don't have an awful lot of detail on that question, perhaps one of my colleagues you can follow up on that particular question if you want some more detail.

Ricardo de Sousa: Yes that would be great, because one of the queries I had was whether Sport England or UK Sport were one of the main stakeholders in the event.

England Hockey Interviewee 1: Sure, well UK Sport were a massive stakeholder in the event in terms of obviously, they provide money to sporting event hosts in order to plan and deliver events in the UK, so certainly UK Sport wear a massive stakeholder in the planning and delivery of the event. **If you were down at Fan Central you perhaps saw an area in the hockey zone whereby they engaged with other sports. So, on a daily basis we had different sports, we had cycling, we had netball, we have volleyball, athletics and other sports that came effectively use that space to engage or within Fan Central on that day. For example cycling they bought their members of the National Governing Body, they had some bikes that people could go on, and they had information. It was effectively an opportunity to engage with the public, but then engage with them with some form of an activity.** So that was one thing that UK Sport spearheaded during the World Cup.

Ricardo de Sousa: Yeah, okay, that is good. In terms of Sport England did they have any specific roles, I know you just mentioned UK Sport going in and showcasing different sports in that particular space, what did Sport England go as a separate, I know they work closely with England hockey but, did it go and sort out deliver their own sort of activity, or have their own area where they would give out information, talk about Sports programmes etc.

England Hockey Interviewee 1: No, Sport England they don't have any areas or rights to activate at the World Cup. So, the answer is no.

Ricardo de Sousa: Okay. Are there any other local and/or national organisations that you have partnerships with, and do you promote their work and any available opportunities that people may get involved with?

England Hockey Interviewee 1: Not to my... I mean this is not my area of expertise unfortunately, I'm more focused on the events that we deliver, but there are some other organisations that we do work closely with: Lee Valley Regional Park authorities being one of them, that is the company who are responsible for, they own and operate the venue that we use for our major events. So that is one organisation that we work with that we collaboratively try and promote the venue and events and the different opportunities that are available hosted at Lee Valley. Again I'm sure one of my colleagues could elaborate further, unfortunately I only got to speak to one or two people this morning, so unfortunately I can't give you more information on a particular one. I will put you in contact with them okay.

Ricardo de Sousa: Yes that is fantastic, thank you very much for that. So I suppose you have already mentioned stakeholders so am I right in just reiterating that you had UK sport as the main activator for the strategies regarding leveraging and then you had the sponsors who played a part, whether it's with kits or anything else along those lines. **Are there any other stakeholders that you did not mention before that were involved with implementing the widening participation strategies at all?**

England Hockey Interviewee 1: Hmm, **not with regards to the participation strategy**, there were certainly other objectives of the event that other partners were pivotal in helping us achieve, but in regards to the participation element, it's no more than what I already spoken to you about.

Ricardo de Sousa: Okay. Maybe this a complicated question to answer now but, how are you measuring the impact of the strategies aimed at increasing mass participation? I am aware that you have a report coming out in January, but can you elaborate a bit more on what you did to try and measure the impacts?

England Hockey Interviewee 1: So every year our participation team collect affiliation data, effectively we go around to all of the different clubs that want to play in the various leagues and we ask them to affiliate to England Hockey. With that they need to report the number of participants that they have. So quite simply, that's how we measure participation in a nutshell, so for example a club could be Milton Keynes Hockey Club and they detail the number of adult and junior players they've got and the number of teams they've got so we measure by teams and number of individuals playing. Recently, pre and post-world cup we have been asking clubs to further their participation in less formal ways. I have talked to you about other different modes, we've got walking hockey, we've also got a couple of schools hockey initiatives called 'quick sticks' which is aimed at getting primary school children and 'into hockey' which is for secondary school children. Now, clubs often put on things like I said, walking hockey and we want them to record. Previously, they haven't been encouraged to record its participants, because they don't see it as traditional hockey. However, Sport England and UK Sport's remit and a lot of other sport are doing likewise as hockey. Table Tennis being an example by there is different ways you can play the sport and that still counts as participation so we have been actively encouraging clubs to record all that is being played at their clubs. We collect that information annually through the affiliation process. So, as for the Rio Olympics, we had an 8% growth in participation hockey, and like you rightly said, we have a paper that is getting published in January which will further update the post-world cup as well, over what our participation levels are like, so at this minute, we are a little reluctant to draw conclusions on the impact of the world cup, if that makes sense. It is something that will be addressed again in January and again, Joe Daniel who

you spoke to briefly, which is my colleague who I spoke to this morning, could again elaborate further if you require more information on that one.

Ricardo de Sousa: Okay great! In terms of the other side of participation, so not actually playing the game but more being part of the sport, looking at the primary data I obtained at the World Cup, participants have mentioned receiving information about being part of the refereeing for example. So, getting involved with the sport but not necessarily playing the game. **Did you have a strategy or an activity, or even the Hockey Makers you had at the event, did they have instructions or a focus on that side?**

England Hockey Interviewee 1: Yeah, so we do, whilst it's not our primary focus of the organisation nor the World Cup, we did as you rightly mentioned about umpiring, we obviously try to grow our umpire, the pool of people that umpire Hockey, because we need them just as much as we need people playing it as well. So, that is something, again the world cup was probably leveraged to some degree to try and achieve, but it certainly was not a primary focus. With regards to the hockey makers that you mentioned, we obviously went through....**we've got a good relationship with a certain pool of hockey makers over the last few years of delivering major events**, but with this one in particular we needed two or three times the amount of workforce that has been required previously, so **we had a specific strategy around hockey maker recruitment, retention in the ward as well. It doesn't necessarily relate to sport and physical activity participation as such, but certainly involvement with hockey. We are always trying to promote that, so the hockey makers strategy, which is an ongoing strategy, because of our involvement with the FIH pro league in 2019, is still continuing, and that was about not only upskilling our more seasoned, more expert hockey makers, but also about...you know, attacking a new database of people who have never volunteered for hockey before.** So now that we've got them it's within the strategy that we retain them for our events and we eventually upskill them, so

that's sort of the hockey maker sort of cycle if you will, that we want to achieve, because volunteer retention is very difficult to achieve...because people come to do a job, and then next time they do another job which is the same and then they say this will be the same every time so I am not going to come back. Whereas we try and create an experience where they're either learning new skills, they may be doing similar jobs, but they are learning new skills within that, and again try and upskill them so when we do more domestic events, smaller events such as schools' finals or clubs under 16s finals, that they got a senior position in delivering that event. So, from an event management point of view as well, it is all part of this hockey maker strategy, so that's vital for us because we are not a massive team here in the events team at England Hockey, so we can't...to deliver so many domestic and major events in one year is challenging without this workforce too so. That alongside, and again we've got an individual in the organisation who works solely on officials and umpires, which you previously mentioned, and again if you want more information on officials and umpires and want to know about their specific strategies, he would certainly be best placed if you want more information on that, that is.

Ricardo de Sousa: Yeah, I mean, like I said, any information to do with any sort of leveraging strategies, obviously my focus is on wider sport and physical activity participation strategies, but obviously participation in Hockey can be in different ways so.

England Hockey Interviewee 1: Sure.

Ricardo de Sousa: So that is obviously the other side of it which I am also interested as well, to correlate with the data I have already have, in terms of primary data. I know you've mentioned UK Sport going in and implementing some widening participation activities, looking into Cycling and other different sports, and you've said you had an info booth at the actual arena and also Fan Central, but did England Hockey implement any strategies for wider participation in

general sport and physical activity, whether it is at Fan Central or the main arena? Did you have anything sort of generic in that sense or was your sole focus as England Hockey on just Hockey participation?

England Hockey Interviewee 1: Yeah so, **we don't put an awful lot of resources into promoting wider physical activity as such**, our focus and our remit is to...sport is obviously a very competitive market, so we find that one of the barriers to sport is that people play other sports and don't have the time to do it. **So, I suppose in a way, whilst they all have the universal and...we want massive participation and mass physical activity participation, but ultimately our focus is on Hockey and we don't have the resource, you know, to do otherwise.** We do certainly promote healthy living, we advocate that certainly, however we obviously try to do that through encouraging people to actually play Hockey **so that is really a no about generic about sport, apart from UK Sport who obviously used their opportunity at the World Cup to leverage other sports.**

Ricardo de Sousa: Of course. It does makes sense, I just asked the question based on what you had said before. I know UK Sport fund the event, or they put money into the event, and since you mentioned widening participation, I thought whether or not they also got you to do similar things, not obviously as a primary focus, but have something alongside it to do with that. But I mean that is fine. Touching on what you just said in terms of healthy living, and I suppose looking at benefits of participating in hockey, but also alongside of how does that impact on your lifestyle, did you have...I would use the example of maybe the info booth...did you have anything that would link, whether it is giving out flyers or any information and potentially show awareness, or show people that hockey participation can lead to....what are the benefits of playing hockey in regards to physical health and mental health I suppose.

England Hockey Interviewee 1: Yeah, I mean, those are certainly benefits that our participation team would definitely highlight, and again I could get my colleague to actually send...probably send examples of things which have been sent out, as I say, this particular area isn't my sort of area of expertise on my day to day job, so I can't give you more detail. But certainly **there will be evidence of flyers and emails and stories that we've done and how we've used Hockey to promote a healthy living and the health benefits associated with that so**, there will be definitely something that we can send you.

Ricardo de Sousa: Yeah that is fine, I mean that would be fantastic. Like I said, any specific details as to how you approached obviously the leveraging impact of the event, so specific implementations would be great, so I can sort of see, because one of the things that I was looking for from the attenders was exactly what did they receive at the event, whether it's information about participation in Hockey, general physical activity participation, sports programmes, etc, kind of looking at exactly, you know, what was the overall reach, obviously not of everyone because I only targeted a number of people, but see exactly what was the outreach in terms of these measures.

England Hockey Interviewee 1: Yeah no, there was as I say a lot of our stuff that we gave out to the attenders of the event was a number of different objectives, **so it was very information focused on the event, it was promoting our Adidas brand and partners that we had onboard for the event probably ahead of any more participation stuff if I'm being completely honest.** But again this is something that I can...it was such a wide team that worked on the World Cup, there was definitely some form of resource that we would've used. **Especially from the 'Your World Cup' campaign which ran in tandem with that, and I know we produced...I don't know if you've seen the 'Your World Cup' guide....I don't know if you saw that at all.**

Ricardo de Sousa: No, no no.

England Hockey Interviewee 1: But again that is something that we...these are resources that we can get across to you, which will give you a bit more detail on exactly we sent to them, but majority of things that we gave to people on event were event focussed as opposed to participation focussed.

Ricardo de Sousa: Right okay. So...But the things you gave out to the attenders at the Fan Central and the info booth, with regards to the participation strategies, they were more broad, I guess they were not just event specific or were they quite event specific information then?

England Hockey Interviewee 1: So an example of one would be, which was **targeted to children, was...we had the event passport.** So we gave that out...**the hockey makers gave that out to attendees...or just anyone who was coming to the Olympic Park or Fan Central at the event, and within that there was a number of different activities for them to complete, so very activity based.** So for example playing on the different hockey activations that we set up, visiting the UK Sport area as well, and other things. **So when they went and did that particular activity the hockey maker who was positioned there would give them a stamp for their passport. So the idea was that they visited all the different things that we told them to do in the passport, so they could get a full set of stamps, which meant they would get a prize at the end. So, that was more of an indirect way, it wasn't necessarily banging the drum about participation and its benefits, but it was actively encouraging people to take part in the various Hockey activations that we set up on event.**

Ricardo de Sousa: Right, okay. I am not sure if obviously, if you will know this or whether or not, or maybe speaking to one of your colleagues would potentially enlighten you about this, but in regards to that, touching upon what you said about the children doing the passport and those activities, and kind of got an indirect sort of information on it, was there any leading...so post that let's say, even if it

was to the parents, so once they have completed it or any kind of activity, were they given I guess post-event information if that makes sense. So what they can do after the event has finished in terms of increasing their participation, or for those children who I guess never played Hockey but went to the Hockey event, ways of getting involved through those activities, so afterwards giving them a bit more to kind of go on.

England Hockey Interviewee 1: Hmm, off the top of my head I can't actually remember but I can check and find out pretty quickly for you.

Ricardo de Sousa: Okay.

England Hockey Interviewee 1: And again, I can send you a digital copy of the passport if its relevant, which you can see all of the messaging that its got inside of that. But I can't remember off the top of my head Ricardo sorry.

Ricardo de Sousa: That's fine, that's fine, not a problem. I mean I think you gave me a pretty concrete sort of idea as to what you have implemented, which is great. I think for me now, I would just, if possible obviously, if you or someone I suppose, you can put me in touch with, could maybe go in a bit more detail as to specifics.

England Hockey Interviewee 1: Yeah.

Ricardo de Sousa: I mean you were quite specific in some areas, well Fan Central, the work that UK Sport did as well, so the different kinds of Hockey....hmmm, activities, but I guess specifics in terms of flyers, what exactly was said, I know obviously you mentioned getting links with clubs, but sort of specifics of how you made....how you gave information to people and what did the information say, was it sort of linking to different sports programmes, linking to different taster sessions outside of the event, so kind of post looking at post

event participation. So, anything that you kind of did at the event that would lead to that, that would be amazing to see.

England Hockey Interviewee 1: Yeah no, one other thing that is worth mentioning, and again I'll mention it to my colleagues who I will put you in touch with, but we had a side event, I'm sorry, an event space at the World Cup called the ClubHouse. So it was a space which had, which could host things like conferences, seminars, lectures, seats, a television, a bar, and then with that, match tickets associated with that particular session, so we activated that throughout the event, and that again was speaking to our strongly attached clubs, schools and other groups which was led by the participation team.

Ricardo de Sousa: Okay.

England Hockey Interviewee 1: And, their job was to...they had a number of different reasons for hosting things on different days. Again, I can't unfortunately give you the details in that way. We had world class hockey on show, we had an event space that we could come and eat and drink and be engaged and then watch the match, so that was something that we did almost everyday at the World Cup.

Ricardo de Sousa: Yep, no no, that's fantastic, that's fantastic. Well I really appreciate you giving me time and I know you are quite busy but thanks.

England Hockey Interviewee 1: Sorry I couldn't be more specific on some of those items but as I say we will make sure that...the way we are structured here at England Hockey is that we try and....we cover a lot of things, but we've got individuals who are obviously looking after specific areas and whilst we do have a lot of crossover and some general knowledge shared, we don't necessarily know the inside outs of everyone else's day to day work. So, as I say....but we will try and get you the best information that you require.

Ricardo de Sousa: Yeah yeah, that's fantastic. As like I said, I'm just trying to, I guess cross reference, so one of the questions I asked was regards to the information that they received, and I gave them you know, boxes to tick with regards to different opportunities, whether it's in other sports, in Hockey, sports programmes, opportunities for beginners, etc, and there was one box where I gave them 'other' as an option, so they could put down an option, and that's why I mentioned umpiring or refereeing, because I believe I got that as an answer. So obviously whatever you can give me that I can sort of link to that, or kind of show towards to the leveraging it would be great towards my analysis in the end of my thesis so.

England Hockey Interviewee 1: And we definitely, now that you've mentioned umpiring, it has jogged my memory slightly on one of the other activations we had at Fan Central which was called 'You're the Umpire', so we...I don't know if you saw that when you were there but that effectively was a...we had a set of screens and iPads and we showed the members of the public some footage of a hockey match, and then gave them a decision to make on what the umpire would do in that situation, and that was a way to not only...you have a bit of fun as well, but also engage people and we brought umpired down who were working on the event to speak to the public and give them insights and knowledge, and I know that we then linked those people to our website after the clips to learn more about umpiring and how to get involved.

Ricardo de Sousa: Oh great!

England Hockey Interviewee 1: But again, the chap....one of the guys I'm going to put you in touch with will give you more specific detail on exactly what was said and what we wanted to achieve from that from an objectives point of view, but that is certainly something we did at Fan Central to engage the umpiring aspect of it.

Ricardo de Sousa: Fantastic! No no, that is really really good. Yeah yeah, if you can do that, if you can get me in touch with someone who can give me some more details about that, that would be amazing. I was just thinking, I know my research centre does have links to UK Sport, because they obviously do the consultancy work for UK Sport, but since you mentioned that UK Sport are...because at one point I thought Sport England would be the one going in and doing that sort of you know...general sports activities, but you said UK Sport did the Cycling bit at Fan Central, is there anyone that...or even if you just give a name or something...anyone that I could maybe talk to about that.

England Hockey Interviewee 1: From UK Sport?

Ricardo de Sousa: Yeah, just to see specific work that they actually implemented or what strategies they implemented when they did that....sharing the Cycling and so on.

England Hockey Interviewee 1: Yeah I could dig out a contact I'm sure there as well. I'll give her a call just to see if she is the right person to speak to you or not and more than happy just to share that contact with you.

Ricardo de Sousa: Oh fantastic! Thank you very much, because I suppose that would be the other stakeholder that had a...you know...an interest and implemented something alongside you guys as well. So that would be quite good to have that side as well. Yeah fantastic, I mean like I said, I appreciate your time...thank you very much for giving me all the information....and yeah if you could the put me in touch with some of your colleagues and...or whoever you think is relevant and maybe someone from UK Sport that I could speak to...I mean even if it is a name, because like I said, my research centre knows UK Sport quite well, so maybe they will know that person so I could get in touch through them, so you don't have to sort of be in the middle of the communication but it would

certainly be good to talk to the other stakeholder and get their perspective as to what they did at the World Cup Hockey.

England Hockey Interviewee 1: Yeah I'm sure we can get something arranged so no worries there.

Ricardo de Sousa: Fantastic!

England Hockey Interviewee 1: Okay, I will drop you an email shortly with my colleagues and then hopefully you can get some more success there.

Ricardo de Sousa: Yes thank you very much, I really appreciate it, I have got some good material so that's fantastic. Thank you very much.

England Hockey Interviewee 1: Thank you!

Ricardo de Sousa: Have a good evening, I appreciate that.

England Hockey Interviewee 1: No worries! Cheers! Bye bye!

Ricardo de Sousa: Bye bye!

England Hockey Interview 2

England Hockey Interviewee 2: Hi Ricardo how are you doing?

Ricardo de Sousa: Hi Joe I'm alright thank you, how are you?

England Hockey Interviewee 2: Good good yes, I am very well thank you.

Ricardo de Sousa: Good good. I was wondering if it was possible to have a chat now on the leveraging of the Hockey World Cup at all?

England Hockey Interviewee 2: Yeah

Ricardo de Sousa: Is that okay?

England Hockey Interviewee 2: Yeah that is absolutely fine.

Ricardo de Sousa: Cool. I just wanted to reiterate that I will be recording this, but it is just for transcribing the information later on for the thesis so...that's about it...hmm, when I spoke to your colleague David Elworthy....

England Hockey Interviewee 2: Yeah

Ricardo de Sousa: ...because he was the one who then told me to speak to you about this, because he said you would be the best person to kind of give me further information about it...we had a discussion basically about the different types of activities that were going on, went into further detail about actual in the main venue, so what kind of stuff you did and you didn't do...hmm, but also when I asked about...because he mentioned briefly something to do with the main tent...so that white marquee...

England Hockey Interviewee 2: Yeah the ClubHouse...

Ricardo de Sousa: Yeah the ClubHouse exactly...hmm, he said there was something I think....messages being delivered there, or something like that...but he couldn't really give too much information about that because he wasn't sure

the extent of it...but he said for me to speak to you and that you would probably be able to enlighten me on that matter.

England Hockey Interviewee 2: Sure.

Ricardo de Sousa: So yeah, because he.... when I asked him about it....because when I was there I did see some...I asked if the screen, because you used the screen for different messages to do with sponsors as well...and he said no no no, we didn't use the screen for any specific sort of messages about participation, but you had done stuff with like staff, volunteering and try to get people involved within the sport, not just playing but also get involved in other capacities...hmm, I just wanted to hear from you, basically what did you do, if anything, in the ClubHouse and yeah, just sort of more information about that.

England Hockey Interviewee 2: Sure yeah so, so basically during...so from the first day of the event until the last day, so from the 21st to the 5th of **August we hosted...hmmm, different groups of people in the ClubHouse, in a number of capacities, so, some of that was having conferences, and sort of workshops to do presentation and that sort of things across predominantly our development department. So, some of that was around....so we had like a safeguarding welfare meeting...**

Ricardo de Sousa: Right...

England Hockey Interviewee 2: ...so we had sort of 90...I think about 90 volunteers from our clubs to come along where our team here presented to them and sort of idea sharing, good practice, that kind of thing. Basically, we had a number of those, we one for safeguarding, we had a couple of coaching days, so we had some of our up and coming coaches come in and they were, again they had like a kind of workshop and working day with some of our coaches here, both in our coaching team and in our sort of wider performance team...

Ricardo de Sousa: Right...

England Hockey Interviewee 2: ...So, some of our national league coaches and things like that...hmm, **we also had an umpiring day, so umpires and technical officials...**

Ricardo de Sousa: Okay...

England Hockey Interviewee 2: ...So, similar things **there we had about 40 umpires and 40 technical officials in...**and again, just sort of ideas there, **we also had Young Leaders...**so that was hmm... **that was aimed at under 18s within clubs...**so that day we had about 100...so we had 100 Young Leaders...those could be people under the age of 18 who were in a sort of coaching capacity, maybe via umpiring or sort of some sort of low level volunteering stuff at their clubs....and then we had Sally Monday, our Chief Exec, she was in on the day as well...and it was a bit of a working day for the kids....they had hmm...they had some ideas to pitch, we actually did a bit of a Dragon's Den...

Ricardo de Sousa: Right...

England Hockey Interviewee 2:kind of thing where we had a couple of members from our board as well...Sally sort of pitch an idea to the kids, and then in tables in groups they had to then come up with key ideas that they think could help grow the sport...hmm, and then we also had 4 other days with our clubs, so we had something called...like what we define as sort of a big club...so a big club for us within this country is any club with this country with 500 or more members...

Ricardo de Sousa: Okay...

England Hockey Interviewee 2: ...or over 15 teams that play on a Saturday...so a couple of examples would be Surveton, Beeston, Worcester, Leeds Hockey Club, Manchester University, and basically we get those all and we gather people there from sort of 60 clubs, from the 60 big clubs that we've got, and that was an idea and a chance for our board to share some ideas and share our strategy, our sort of 2017-2012 plan, and for them to not necessarily give us feedback but ask

questions about anything or any concerns that they've got and try and sort of tackle any issues that they have on the day...and then we had a load of other sessions for clubs to just drop in...so part of the reason why we do it at our event is because it is a really good tool to get them to the venue and engage with us...so we obviously tried it at sort of a local level in the past...you know...but given the sort of nature of volunteering and things like that, it is usually the afternoons and evenings during the week that isn't practical for people to, so our sort of engagement isn't strong, so someone from the West Midlands coming in on a 7 o'clock on a Tuesday doesn't really work for everybody, unless you are kind of a couple of miles from the venue...

Ricardo de Sousa: Yeah I see...

England Hockey Interviewee 2: ...whereas the benefit of having a tournament is you give a date months in advance and say right...you know...so it gives us a pretty good window to you know...to plan and sort of share this with other clubs to get the best engagement really...yeah and within that as well **we had an external booking this year looking at the Women's Sports Trust, and the Women's Sports Trust in partnership with Nielsen...they delivered a pitch...they had a load of FTSE 100 companies in and things like that....and that was aimed at promoting Women's Sport basically...sort of showcasing it at and taking advantage obviously of the World Cup...of the Women's World Cup...that was on an England day, it was Thursday the 2nd of August so we had the Dutch versus the English, so a really big day, a really big event...and basically that was just a chance for them to sort of showcase....you know...not only our sport but trying to empower women sport and show that you can get 10,000 people to a venue and things like that...and obviously there is potential sort of sponsorship opportunities for these companies and things like that really.**

Ricardo de Sousa: Yeah...

England Hockey Interviewee 2: So yeah, so there's a few roles really that it has to play, **sort of using this ClubHouse as our kind of...as a...our engagement tool really.**

Ricardo de Sousa: In regards to the...to promoting women's sport you had...hmm...obviously following that match and obviously all of that setup you already had, was there any specific...I suppose...output that you had? So did you give out information to women from all different ages, were you trying to further...sort of...provide people with opportunities and register them in potential clubs in their local area, or was it just simply...you put on that match and people can see it, people can feel the message and everything, but then it's up to them to kind of try and explore the different options themselves?

England Hockey Interviewee 2: Yeah so that particular mean, **the Women's Sports Trust help, that was sort of commercial meetings, and that was in terms of the commercial aspect...**

Ricardo de Sousa: Right...

England Hockey Interviewee 2: ...hmm...so we had people there from...I can't think of any other businesses at the minute...but a couple of FTSE 100 companies in there...it was basically just a showcase....so they did a bit of a comparison with Premier League marketing and sponsorship and to that with women's sport, but equally in certain areas and certain sports demographics people are saying that they've got just high interest in women's sport, and actually that is not an area that should be ignored basically...

Ricardo de Sousa: Right...

England Hockey Interviewee 2: ...hmm...around about the grassroots, some of the grassroots stuff...you know for **women sport, that was picked up in our club sessions...so alongside the 'Your World Cup' campaign that we ran...before and after the campaign we also had, in our club sessions there we spoke about the campaign, and obviously spoke to all the clubs to**

say...you know we got this great opportunity here of a World Cup and we are hoping to see an increased demand like we did after London, like we did after Rio...you know and sort of to prepare clubs to sort of be ready to cater for that...

Ricardo de Sousa: Right...

England Hockey Interviewee 2: ...hmm, and think a bit more broadly around...you know...the methods that they used to kind of track new customers and also to sort of retain them, so our sport is historically a kind of Saturday match...11 a side...whereas now people are kind of come and resonate with the sport...kind of informal game but it's sort of picking up speed really so...you know...the kind of rush hockey, back hockey...you know the 6 a side stuff, is kind of an informal, pitch up and play sort of thing...

Ricardo de Sousa: Right...

England Hockey Interviewee 2: ...you know, and a lot of it packed up a lot of clubs so....it's sort of just to stress that really and you know, to try and get clubs to sort of think outside the box really....with marketing you know, don't always try...there are a couple of clubs where they have tried to put on a sort of....mothers, put on sort of antenatal meetings and that sort of thing...antenatal classes they post on the message board there, but equally on sort of Facebook groups...you know, aimed for new mothers that sort of thing...

Ricardo de Sousa: Right...

England Hockey Interviewee 2: ...just a bit outside...you know...outside of your sort of standard tweet or Facebook post that people **would put out just saying come join our club...this is more a kind of target approach to that.**

Ricardo de Sousa: Right, okay. But in....because I'm just trying to figure out if in the main event, so I guess following that commercially and I guess you sort of

making people aware of what can be done and etc...hmm, but during the actual sort of 2 weeks of event...hmm, even if it's sort of in the Fan Zone or in the stands, etc...was that sort of message that was actually delivered in the ClubHouse...was it put into action in terms of trying to actively get more women or even I guess in general as well...but now that you mentioned specifically women as well...and I guess it's a Women's World Cup...but, was there anything being put into action in that sense to increase participation or was it generally to commercially make it sort of aware...the message....and then put into action later on and not at the venue?

England Hockey Interviewee 2: Yes, so, well I think it was predominantly sort of light touch...I don't think there was any sort of direct campaign...it was quite sort of low key in the sense of the sort of messages being portrayed on sort of the big screens and things like that around find your local Hockey club and you know....advertising sort of...our various ways to play...so match hockey and things like that I know have some sort of air time if you like on the big screen...hmm...but hmm...we put our website on there for the section specifically about 'Your World Cup' so when clubs were posting events that people could obviously register and come round and attend to...so we put that link up on there...where we had all the clubs events...so I think we had over 800 events that clubs posted on the 'Your World Cup' page, so we used that link on the big screen. In the Fan Zone we had our Relationship Managers, so we had our 11 Relationship Managers come in and you know, 3 or 4 county's each across England...

Ricardo de Sousa: Right...

England Hockey Interviewee 2: ...we had those guys at the Fan Zone...in the Information HUB there, where they were sort of engaging with passers-by and things like that and just...sort of chatting to fans and sort of capturing their engagement...whether they were Hockey fans or they were directly offering them ways of getting involved that sort of thing really....directing them to clubs local for their area, that sort of thing really.

Ricardo de Sousa: Right, okay okay. That sounds like a good approach I suppose. Essentially that is what I am trying to capture, is the overall picture of what's been done in the venue and I guess around the venue...again I already have a picture of the Fan Zone and stuff. I was wondering...because I know when I spoke to David he mentioned passing on a contact for UK Sport, I think he has passed it on, but I think when I emailed them, they haven't exactly replied...because he mentioned that alongside what you guys at England Hockey were doing in Fan Central...hmm...UK Sport actually had a direct involvement as well by showcasing Cycling and other different sports during the event...hmm...would you...do you know a way of me getting in contact with someone from UK Sport to sort of further ask about what they did or...

England Hockey Interviewee 2: Hmm...I don't have a contact from UK Sport I'm afraid...I know that UK Sport had a sort of marquee if you like at the event...

Ricardo de Sousa: Right...

England Hockey Interviewee 2: ...like you say there...they were sort of...**again in a similar way to what our Relationship Managers were doing...where our Relationship Managers were directly advertising Hockey...I think UK Sport actually were showcasing other ways to get active and that sort of thing...**but, I don't know enough about that I'm afraid, to sort of provide you with any great detail about that.

Ricardo de Sousa: No, that's fine, I'll try and see if I can get in contact with them again or ask your colleague David and see if he can actually push it through or something....yeah, because that would be interesting to get...you know as UK Sport is obviously a big stakeholder in this...I just wanted to grasp that as well. Okay, so I suppose the ClubHouse was done for those reasons...so there was at the ClubHouse...just to kind of I suppose get a final sense of things...

England Hockey Interviewee 2: Yep...

Ricardo de Sousa: ...was it just mainly the delivery...of I guess...information, meetings and sort of workshops or did during any of the sort of little events...did you kind of register people...even if it was like volunteers and stuff...did you kind of try and get them to participate in future events, also I guess in playing Hockey as well...or was it simply for, okay you do the coaching, get the qualification or you do training for the volunteering for example and that's it...

England Hockey Interviewee 2: Yeah...so, it was predominantly sort of engaging with participants already taking part...

Ricardo de Sousa: Right, okay.

England Hockey Interviewee 2: ...hmm, so we as a National Governing Body...we have sort of roughly around 800 clubs who are affiliated to us but our sort of day to day engagement with them is quite small...

Ricardo de Sousa: Right...

England Hockey Interviewee 2: ...for a lot of those clubs...so I spoke about the big clubs, so we make like a real effort to try and get hands-on with those guys to directly involve their...because fundamentally the way that we will grow the sport the largest is Hockey is generally played most in our clubs...so for us, our strategy is if we can really empower the clubs, then that's where we will see the biggest growth you know...rather than us...ourselves a National Governing Body directing with individuals...you know...at this moment in time we don't really have the sort of the scale, the budget and things like that to target individuals as such, so if we make an effort to go to these 800 clubs, and give them the tools and things like that, to be able to do it almost on our behalf if you like...then that's the way we are going to have the biggest impact we feel at this moment in time...so, the purpose of the ClubHouse is more to try and increase our engagement with these clubs basically and then the individuals...predominantly, people in the ClubHouse are people who already play our sport if that makes sense.

Ricardo de Sousa: Right...did you...because obviously I am not quite aware if you have this or not but...because obviously you mentioned...you know...obviously getting clubs already playing or people who are already playing the sport...

England Hockey Interviewee 2: Yeah...

Ricardo de Sousa: ...do you have a system where there are potentially clubs...or clubs wanting to form I would say...that you also I suppose...invite over to kind of give them the tools to actually start the club?...I mean, obviously you mentioned 800 clubs so I guess that's quite a big pool anyway, but are there at all any sort of people wanting to form a club or any areas that are trying to like develop into a club and increase the number of members, etc...that you also I suppose...invite over to try and help them become a club, or establish themselves more as a club...

England Hockey Interviewee 2: ...so that would be a role more for our **Relationship Managers, so in their patches they will speak to individuals and groups and things like that where they might be playing informally, but...so yeah we have a couple of incidences where they started at nothing and they developed into playing every week and that kind of thing, and joining the league, and yeah...predominantly that takes place kind of takes place Regionally, via our Relationship Managers.**

Ricardo de Sousa: Right okay okay, so that is something that you would not do at the World Cup Hockey for example, it is more externally I would say...?

England Hockey Interviewee 2: Yeah...

Ricardo de Sousa: Okay okay, cool! Thank you, I think I have a pretty good sort of overview of all the work that's been done and that so...I think I can sort of make a comparison with what the participants have sort of told me in the surveys about things and...yeah...well I appreciate your time, I know it's almost 10 o'clock so you have a lot of work to do...

England Hockey Interviewee 2: It's absolutely fine...

Ricardo de Sousa: ...if it's okay, I will transcribe the information and see exactly what I have, and if I have any questions, would that be okay if I asked you again?

England Hockey Interviewee 2: Yeah yeah, that's absolutely fine.

Ricardo de Sousa: Don't worry, I won't bother bug you like in the next few days anyway so, but I appreciate all of your help with PhD so far, so thank you very much. Have a good and a good week, speak to you later.

England Hockey Interviewee 2: You too.

Ricardo de Sousa: Bye bye.

England Hockey Interviewee 2: Bye Bye.

England Hockey Interview 3

Ricardo de Sousa: Hi David, how are you?

England Hockey Interviewee 3: I am good, how are you?

Ricardo de Sousa: Good good, I am good thank you.

England Hockey Interviewee 3: Good, so how I can I help?

Ricardo de Sousa: So essentially I am looking at the leveraging of the event so I'm trying to find out exactly what you guys at England Hockey did to leverage the impact of the event in terms of growing participation in Hockey, and following a conversation last time, I basically found as well that...I know UK Sport had a direct association with that in terms of....apparently they showcased other sports like Cycling for example at the Fan Central, hmm...but then looking at in more detail, not just at sport and physical participation, I was then told by your colleague that obviously you had umpiring and officiating as I suppose a target as well, so to get people involved in that aspect of the game. So, I was just hoping to get more information as to exactly what you did to increase participation for that particular side of the game I would say.

England Hockey Interviewee 3: Right okay, no problem. So, let's start with a little bit of background okay, because this might help shape some of your thoughts on, or some of your understanding on why we did what we did. So, in the adult game, in league hockey on a Saturday for example, **across the country there are 1,926 matches...of those matches about 81% of them are serviced by volunteers at club level who probably play and then umpire a game, or they umpire multiple games.** It's the one area of the game that hasn't really grown along with the player numbers, because people don't join the game to be an official, they join the game to be a player and then they follow on and do other parts of the game which umpiring and officiating is one of them. So, **what we wanted to do was to try and have an engagement piece in the Fan Central**

area which allowed people to question themselves and make the decisions as if they were the umpire.

Ricrdo de Sousa: Right okay.

England Hockey Interviewee 3: So, in the marquee we had three iPads on the go where we had a series of three or four clips where we were asking people to spend no more than two minutes there, and they would press play on the iPad and they would watch something in real time, they would then be asked what decision would they make as an umpire, so they would have 10 seconds to make it, then the programme would kick back in by showing them what actually happened, what the umpire gave and the reasons behind.

Ricardo de Sousa: Okay.

England Hockey Interviewee 3: At the end of that, they would have a landing page right at the end of the video with a QR code on there, which allowed people, well...it provided people with the opportunity to register on the Hockey HUB.

Ricardo de Sousa: Right.

England Hockey Interviewee 3: So they could find out more on how they could get involved in umpiring. There was also a QR code on there which went straight to the officiating pages on the England Hockey website.

Ricardo de Sousa: Right.

England Hockey Interviewee 3: Where people could learn more about the formal process, because the educational piece for us was not saying 'everything has to become an umpire' but it was more if we can get people to understand the rules...

Ricardo de Sousa: Yeah...

England Hockey Interviewee 3: ...then they actually get more enjoyment out of the game.

Ricardo de Sousa: Of course, of course, and I suppose once they realise the rules and they can get a clear understanding of what's going on, it could I guess increase their desire to actually become an umpire or officiate the game as I say.

England Hockey Interviewee 3: Yeah, yeah...I think another weird stat is there is 140 thousand odd Hockey players in England...

Ricardo de Sousa: Right...

England Hockey Interviewee 3: ...and yet there is only 18 of them who have gone over to India and are currently playing China and losing 1-0.

Ricardo de Sousa: Right.

England Hockey Interviewee 3: Which means you've got a very slim hope of being one of those 18 to go.

Ricardo de Sousa: Yeah yeah.

England Hockey Interviewee 3: In umpiring terms we've got 26 thousand registered umpires on the system, and there is always one from England at those big tournaments, and actually...in other terms, with other lines of officiating, we have got two or three at different tournaments this year. So, for some people there is a better chance of them going as an umpire or official than there is as a player. So, its highlighting that there's other ways of staying involved and getting to the top elite level of our game, without necessarily being very good with a stick in your hand.

Ricardo de Sousa: Yeah, exactly. In terms of...because you obviously mentioned the QR code at the end, for people to get signed up for it....

England Hockey Interviewee 3: Yep

Ricardo de Sousa: For those who don't use QR codes, or I guess maybe you can potentially say that the older generation potentially don't know how to work those things or don't have it....did you target them in a different way or...

England Hockey Interviewee 3: I don't know whether Neil has shared with you the passport...?

Ricardo de Sousa: Yes yes.

England Hockey Interviewee 3: In the passport, on the back page there was the written website if you like for people to find out about how to get involved in coaching as well as umpiring and officiating.

Ricardo de Sousa: Okay.

England Hockey Interviewee 3: So, over the 3 weeks of the World Cup, we had that as a physical tool that we were handing out to spectators who were coming through Fan Central, we had it shared with the activity that was going on through the 'Your World Cup Campaign' that the development team were running within clubs, and then we had the actual 'You're the Umpire' there on the iPad as an additional presence.

Ricardo de Sousa: Okay okay, because I was just...

England Hockey Interviewee 3: On the pure engagement point of view....

Ricardo de Sousa: Yep...

England Hockey Interviewee 3: ...the videos with the computer programs logged just over 33 thousand plays.

Ricardo de Sousa: Right okay.

England Hockey Interviewee 3:...and from actually standing there we knew that it wasn't just one person watching these, it was normally a dad and the two children or a couple of mates together having a look at it and then taking the 'micky' out of each other when they get it wrong.

Ricardo de Sousa: Yeah yeah yeah, okay.

England Hockey Interviewee 3: But the other thing which we noticed was that we saw 9 thousand people sign up to the Hockey HUB...

Ricardo de Sousa: Right.

England Hockey Interviewee 3:...during that 3 week period, of which a ¼ of them said they were an umpire or they were interested in becoming an umpire.

Ricardo de Sousa: Okay.

England Hockey Interviewee 3: And the knock-on effect at the NGB, is that our busiest time for umpiring courses is normally between September, October, November, because it's at the beginning of the season where clubs are asking for people to come forward and that normally culminates in lots of people going to the initial level 1 training just so that they can service those matches at club level.

Ricardo de Sousa: Okay.

England Hockey Interviewee 3: Hmm, we have held 71 courses nationally over the period of the first weekend of September, through to the end of November.

Ricardo de Sousa: That is quite considerable.

England Hockey Interviewee 3: Hmm, well, the busiest year we have ever had in that period, was the year before with 59. So, we held 71, we allow a maximum of 24 people on the course and last year we saw our average numbers per course being 16.

Ricardo de Sousa: Okay.

England Hockey Interviewee 3: This is year it is 23.

Ricardo de Sousa: Wow okay.

England Hockey Interviewee 3: It is very rare nowadays for us at the moment to run a course without it being full.

Ricardo de Sousa: That is pretty good. It means that it's increasing in popularity at I would say then.

England Hockey Interviewee 3: I think it is an increase in popularity but an increase in awareness.

Ricardo de Sousa: Yeah.

England Hockey Interviewee 3: And, what the World Cup has done for us in the umpiring world is support the messaging of what we have been basically working with clubs around the last 3 years...because in our club development models in our seven 7 strands of a successful club, one of them is about the workforce of the club. So, how we engage volunteers, how we engage officials, how we engage coaches and other volunteers to help with the running of the club.

Ricardo de Sousa: Yeah.

England Hockey Interviewee 3: And so I think this is just a knock-on effect of some of the work that we've done there, the awareness that we've had through the Fan Central area during the World Cup, and I think the other thing as well is that now that the invention of the video umpiring in our game and the way that the game has changed from 2 periods of 45 internationally to 4 periods of 15, there is more focus on the umpires on TV...because the clock gets stopped at every penalty corner, the decision gets analysed even by BT or whoever the broadcaster is, doesn't matter whether the decision is right or wrong, the umpire is becoming more of a focus, just because of the way that the game has now changed.

Ricardo de Sousa: Yes, so there is more of an emphasis on the umpiring.

England Hockey Interviewee 3: And when you compare us with other sports, Football for example trained over 6,000 referees this year nationally, but they will

lose over 6,000 referees nationally, we don't lose that many umpires. We don't train anywhere near as many, we'll train over 2,000 this season.

Ricardo de Sousa: But your retention I guess is a lot better.

England Hockey Interviewee 3: Our retention is better because they are not expected to give up playing, they are considered around the other club requirements. They can do one game a season that is fine. They are servicing the game which is what we are after.

Ricardo de Sousa: Looking at...because I know you mentioned some stats, so when people signed up on the iPads, you mentioned...I am correct in saying 1/3 were already playing or officiating and wanted to do more or something...is that what you kind of pulled out...I was wondering if you have any sort of indication of the percentage of people who went to the event but are actually not active, whether it is playing or officiating but through that mechanism that you had or through watching the event let's say...attending the event, had an inclination to do officiating...take part in officiating. So, a non-active person on both sides but after going through that process, actually wanted to take part in officiating and umpiring.

England Hockey Interviewee 3: It's something that we haven't measured, but it's something that we have found very difficult to measure.

Ricardo de Sousa: Okay.

England Hockey Interviewee 3: Just because of the way that officiating works, because if someone has picked up a whistle to help with junior matches at their club...

Ricardo de Sousa: Yeah...

David Elworthy: ...they don't need any formal umpire training...

Ricardo de Sousa: Okay.

England Hockey Interviewee 3: Hmm, so they can just go out there and crowd control for the Under 13s and below effectively.

Ricardo de Sousa: Right.

England Hockey Interviewee 3: Hmm, when we get people onto a course we ask how they heard about it, but we don't ask any more detail because a lot of the course bookings have been made by clubs. The fee is paid by the club and then they send their interested parties onto the course. And so, for us, to actually drill into the...Joe Bloggs came, they aren't an active Hockey member, they aren't a member of a club, they haven't played the sport for years, they have now gone, done this activity or this station point and they have now gone and booked on a level 1 course, we just can't follow that whole process throughout.

Ricardo de Sousa: Yeah I mean that's reasonable enough to say, I was wondering if on the actual registration on the iPad, there was a filter question to say "do you currently play or do any kind of officiating?"...yes or no...and then...

England Hockey Interviewee 3: There's questions on there around if they are actively in engaged with a club or school, and there are questions around what is their role in that organisation.

Ricardo de Sousa: Okay.

England Hockey Interviewee 3: Where they can list teacher, coach, umpire or other.

Ricardo de Sousa: Okay.

England Hockey Interviewee 3: But because it's a drop-down box and people do what they want to on drop down boxes.

Ricardo de Sousa: Yes...

England Hockey Interviewee 3: The validity of some of the answers is pretty poor.

Ricardo de Sousa: Very poor, yeah right, understandable.

England Hockey Interviewee 3: So, I can look back at who's registered over that time on the Hockey HUB...so the 9 odd thousand registrations we had over that period...and I could tell you (x) number had put down that they have listed themselves as an umpire, but at the moment, I can't link that to our umpire accreditations system.

Ricardo de Sousa: Okay.

England Hockey Interviewee 3: So, I can't actually see out of those people who said they were an umpire, how many have got the accreditation and how many haven't...or how many have gone on to do the accreditation after registering online.

Ricardo de Sousa: Do you need to have accreditation to be able to umpire...even if it's like very, very low-level games?

England Hockey Interviewee 3: Yeah, all adult matches....

Ricardo de Sousa: Right...

England Hockey Interviewee 3: All adult league matches ask for at least a level 1 accreditation.

Ricardo de Sousa: But not school though...?

England Hockey Interviewee 3: Hmm...no. So school and junior Hockey, unless it's an England Hockey competition...

Ricardo de Sousa: Yeah.

England Hockey Interviewee 3:...or for example the independent schools...they have their own leagues and competitions...they have enlisted in their saying that they have to a level 1 umpire...but lots of other school's tournaments don't.

Ricardo de Sousa: Okay...because I'm particularly...well let's say...where my focus is, for my PhD, in terms of overall what I am trying to find out...I'm looking at the younger demographic, so between 16-25 years old...hmmm so, obviously looking at what impact in terms of inspiration...in terms of actually getting people to increase their levels of sport and physical activity...and obviously again, umpiring and officiating, seeing how attending that event also impacts on that side...I was just curious to see if you had any sort of idea as to the percentage of people between that age group, who either showed a desire to do more, but also out of that demographic, those aren't currently active at the time of the event, said they were keen to do more or get accreditation, etc.

England Hockey Interviewee 3: I think there's a couple of anecdotal bits that we can share with that. So, because we know who has attended all of these courses...

Ricardo de Sousa: Yes.

England Hockey Interviewee 3:...over the last 3 months and historically, we can work out how many fall into that demographic...

Ricardo de Sousa: Okay.

England Hockey Interviewee 3:...but we won't know the reasons motivating them.

Ricardo de Sousa: Right.

England Hockey Interviewee 3: Similarly I did a survey on everyone who did a level 1 course in 2017, I wrote to them just asking them about their experience on the course as well as what they did post-course...and the response rate...I think I had 200 odd responses out of 1700 people. It's not a great uptake...but there was enough there to sort of get some themes and some patterns because this is nowhere at the same level that you are looking at.

Ricardo de Sousa: Yeah.

England Hockey Interviewee 3: I looked at it and **60%** of people who responded said they were umpiring at least 1x a month.

Ricardo de Sousa: Okay.

England Hockey Interviewee 3: Hmm, for the ones that weren't umpiring, they were saying it was mainly a time factor because of family commitments or playing commitments got in the way...hmmm, with very, very few saying that they weren't involved in the sport at the moment.

Ricardo de Sousa: Okay.

England Hockey Interviewee 3: I think there as about 2 or 3 responses out of the top of my head like that.

Ricardo de Sousa: Okay, but these are all people who obviously have done...so they are accredited to at least a level 1 then in umpiring?

England Hockey Interviewee 3: Yes...

Ricardo de Sousa: Do you have any idea as to...I guess any sort of rough description of the people who have said they umpire but in fact they don't have any qualifications...so I guess school level, junior level...any of those who sort of...

England Hockey Interviewee 3: Unfortunately, we have no way of tracking that, just because of the way we are governed at the moment.

Ricardo de Sousa: Right, right.

England Hockey Interviewee 3: Because, unlike other sports, England Hockey only manage a database and we only take ownership of the National League. All of the school matches that might take place in the East Midlands, they will send their match sheet and their regulatory umpiring names and numbers and everything else to that league secretary, but that is where it will stay.

Ricardo de Sousa: Okay.

England Hockey Interviewee 3: And at this present moment in time, **the majority of the stuff going on at grassroots level we just have no real picture of. We can anecdotally say there is this number of matches in leagues because we can see that through the different league websites...**

Ricardo de Sousa: Right...

England Hockey Interviewee 3: ...but when it comes to Under 16s, Under 14s, Under 13s, 12s, 11s, 10s, 9s, 8s that we now have in the country in some areas...it's purely done on a local basis, with 2 or 3 clubs coming together and saying let's hold a festival next weekend, bring a couple of teams, we'll play each other and have a good couple of hours instead of doing a training session for them...

Ricardo de Sousa: Right...

England Hockey Interviewee 3: ...and there will be no requirements, no record of who's blown the whistle in those...

Ricardo de Sousa: Right okay...

England Hockey Interviewee 3: ...and the match results won't even go anywhere in that sort of scenario....it will just be a....3 clubs have got together to have a morning together and play a bit of competition.

Ricardo de Sousa: Right yes, I see what you mean, so if it's not like an official...I suppose an official match or gone through the system then there is no way of recognising who does it just for fun and does not have any qualification but is just being there...I guess as a support or help on a weekend or something like that.

England Hockey Interviewee 3: Yeah and that's it because you know...70% is done through umpiring associations...and they appoint umpires...

Ricardo de Sousa: Ah okay...

England Hockey Interviewee 3: ...and none of those are going to be the base level 1 umpires, they are going to be at a higher umpire level because they are operating at a county level, regional and national level.

Ricardo de Sousa: Right...okay.

England Hockey Interviewee 3: ...and out of our 24 odd thousand registered umpires we only have 300 that hold the right level accreditation to operate on our National level programme.

Ricardo de Sousa: Right...

England Hockey Interviewee 3: ...and those guys would have been time served and gone through the process or transferred in from another country that they have already been operating at that National level.

Ricardo de Sousa: Yeah...

England Hockey Interviewee 3: So, that detail is very easy to find...it's the grassroots level that we really struggle, and at the moment as an NGB we are almost doing it slightly blind, just say well if we keep throwing it against the wall, more and more will stick.

Ricardo de Sousa: Okay, yeah.

England Hockey Interviewee 3: ...and that...it's the worst marketing in the world for this side of things, but it's the only way we can do it at the moment, until we have other ways of knowing what happens at grassroots level.

Ricardo de Sousa: Right, okay. In terms of...because I know it has been very clear from what you said, and also from your colleagues...that you had...I guess...a very direct involvement at Fan Central, so you had stuff put on there...with regards to the actual main venue, so where the games were being played, hmm and all the stalls...because I know there were food stalls, merchandising and some other bits and bobs there, hmmm did you have anyone

in particular going round or at the exits and entrances, giving out information, leaflets or anything to do with umpiring and officiating?

England Hockey Interviewee 3: No, so we used the main venue slightly differently. So, what we used the main venue for was the hosting of development groups, of groups of umpires from around the country...where they have either bought tickets or we were letting them onto our development group, so for the second Saturday of the tournament, which would have been around the 28th of July, hmmm, in the afternoon we had 30 of our top umpires in, where we had the FIH officials manager, myself and the volunteering head of umpiring.

Ricardo de Sousa: Okay.

England Hockey Interviewee 3: ...and all working with the 30 in the Friends and Family section of the stadium goal, reviewing videos tapes, coming up with themes and they would go watch the game and then think back...and they would also speak to the umpires as part of their ongoing development.

Ricardo de Sousa: Okay.

England Hockey Interviewee 3: On the Sunday we had representatives from all of the county umpiring associations, and we did lots of the same thing. We did that in the main e and at the Friends and Family we had our technical officials in...

Ricardo de Sousa: Right...

England Hockey Interviewee 3: ...where we have over half of our national and technical officials in speaking to the tournament director and finding out ways of working, and what new things were going to come in, so it was more of an educational piece.

Ricardo de Sousa: Okay.

England Hockey Interviewee 3: ...and I know there is 5 groups of umpires that came in during the course of the tournament, that were either young umpire action groups, so their members were between the ages of 14 and 20...

Ricardo de Sousa: Okay...

England Hockey Interviewee 3: ...or they were adult umpires operating at that regional level, they came in and were watching the games and then doing their own work around it, and because of my role at the World Cup, I was actually able to get an umpire that was on a rest day to come and speak to them as well, to help with that education process.

Ricardo de Sousa: Alright cool, okay.

England Hockey Interviewee 3: So, we did that slightly differently because the main focus of the stadium goal revolves around the digital experience.

Ricardo de Sousa: Right...

England Hockey Interviewee 3: And so, in that stadium goal, it was all about getting the mood right, so they are watching the game of Hockey, trying to upsell the placard board, or the signature sticks and all that side of things...

Ricardo de Sousa: Yeah...

England Hockey Interviewee 3: ...as well as the food and drink, and then having a message in there about now that you've done it, if you want to play or get involved in the game elsewhere, that messaging we agreed as an organisation that we would focus on at Fan Central...

Ricardo de Sousa: Okay, okay.

England Hockey Interviewee 3: ...and that's why the Vitality last mile focused around sending people out of their normal walking route from Stratford West Hill to the Stadium...it was more about trying to get them to go a different way to Fan Central, instead of going the quick way...

Ricardo de Sousa: Hmmm, okay.

England Hockey Interviewee 3: ...and so, there was more work about trying to generate [footwork] through Fan Central, and capturing them there, than there was in the Stadium, because they thought most people in the Stadium would have picked it up and turned it away.

Ricardo de Sousa: Ah okay...

England Hockey Interviewee 3: At Fan Central you just have more time to engage with people and give them that better experience and have the time to talk.

Ricardo de Sousa: Okay.

England Hockey Interviewee 3: ...which is the theory behind that.

Ricardo de Sousa: So....

England Hockey Interviewee 3: ...and the nice thing...my personal view on this, is that because we were right next door to the Activity Area where people could go and have a go, they could actually pick up a Hockey stick and have mini games, go do dribbling or shooting games and that side of things...it was the right area for people to engage and have a go.

Ricardo de Sousa: Okay.

England Hockey Interviewee 3: So, I think that worked really well for us.

Ricardo de Sousa: Okay, that's good. Yeah, yeah, sounds...

England Hockey Interviewee 3: If we were separate...if we were on the retail side, no one would've come in, because they would have just been walking into the tent and go well we can't buy anything we'll walk out.

Ricardo de Sousa: Yeah, yeah, I guess having those two next to each other compliments say...having the officiating but also pick up a Hockey and sort play a game a bit and I think get both sides of the coin I would say. I...my main role is

obviously to be at the actual main venue, because I had to survey the attenders in between games...

England Hockey Interviewee 3: You were working with hmmm...which University were you with sorry?

Ricardo de Sousa: Sheffield Hallam University.

England Hockey Interviewee 3: Oh, so you were working with Dave Barrett, doing surveys for him were you?

Ricardo de Sousa: Yes, I did the sort of first weekend, I went with SIRC, so yes I was part of....I worked for him but I was also doing my own research and then afterwards I just went on my own accord and just focused on my own research really, but yeah I did work with him....and I obviously liaised with him throughout and yeah so...but the...I was going to say, so me being at the event, I obviously tried to take in as much as a I could and sort of be aware of what was going on, and as you mentioned obviously the main venue uses for different things, like you mentioned the main venue has uses for different things like you said the food and sort of marketing other aspects of the event....did you...I didn't notice this but maybe you did at some point...did you have anything on the screens...because I know you obviously had publicity being shown on the screens, in between obviously...during the half-time, during the period breaks...did you having anything on like that, pushing officiating?

England Hockey Interviewee 3: Not directly for umpiring because that time on the big screens was more for sponsors who paid for it and then we also linked in the participation side around going back to Hockey or finding your local club and giving it a go.

Ricardo de Sousa: Ah okay, so you had that on the screens then.

England Hockey Interviewee 3: So we had that at times on the screens, the only thing umpiring wise we did which was a little bit different which was the...we took headshots of the actual umpires in the tournament...so before

the walk-out their headshots would come up on the screen before the teams were introduced saying these are the guys that will be looking after your game today.

Ricardo de Sousa: Oh okay.

England Hockey Interviewee 3: And the other bit of engagement we did was on the second Monday of the tournament, we actually had a slot at Fan Central where 3 of them got interview by the guy on stage...

Ricardo de Sousa: Oh right.

England Hockey Interviewee 3: ...and they were just talking about...with a little bit of careful selection...I got 3 who could speak pretty good English, but all 3 of them had come from different backgrounds, but where they all started at club level...

Ricardo de Sousa: Right.

England Hockey Interviewee 3: ...and worked their way through to the international game, and in the lines of questioning which the compound stage did, was focused very much on their story in....so how they got into where....you know what support they got from their local club, how they then progressed and one of the people interviewed actually works as a Development Officer in New Zealand in Hockey and her area...

Ricardo de Sousa: Oh interesting.

England Hockey Interviewee 3: ...and so she spoke very passionately about her role with her state in New Zealand...she does effectively the same role I do, but I cover the country, she covers 20 clubs.

Ricardo de Sousa: Right okay, yeah.

England Hockey Interviewee 3: It's the only time I've ever seen umpires actually getting asked for autographs.

Ricardo de Sousa: Oh wow, okay. Yeah, I've never really seen an umpire being...well in any sport to be honest, have that kind of popularity or fame, but I mean it's obviously the way it's been approached and the way it's been I suppose publicised...it makes people more aware of who they are and the job that they're doing...so I suppose it's natural...or becoming more natural that they get more emphasis. So, okay, yeah fantastic! I think I pretty much have the information that I need, hmmm...I was wondering...would you know...because I know I emailed Neil I believe about...because he mentioned getting a contact from UK Sport for me to talk to about their leveraging involvement at the event.

England Hockey Interviewee 3: Yeah, he would be the best person to contact about that because from my involvement, he was on the main organising committee.

Ricardo de Sousa: Right, okay.

England Hockey Interviewee 3: I was just a hired mug for 20 days pre-tournament just to help...

Ricardo de Sousa: haha okay.

England Hockey Interviewee 3: ...in certain areas and be the travel agent for a team of 23 officials.

Ricardo de Sousa: Right okay. But it all seemed to run very smoothly to be fair so that was a good job on that side anyway.

England Hockey Interviewee 3: I think when everything looks good on the outside, everything on the inside was still running around like lunatics...but then, if it came across that everything was running smoothly that's the main thing.

Ricardo de Sousa: I mean I saw...I guess I had the privilege of seeing a bit of both sides, because I obviously doing research, I was able to hang around the...what was it called...

England Hockey Interviewee 3: Oh, the Hockey Maker...

Ricardo de Sousa: ...lounge yeah...so I experienced bits and bobs....I know at times it did look like there was a lot of stress and things needing sorting out here and there, which I think is natural anyway, of a big event like that...hmmm, but once you go onto the outside and you go to the stands, and you know...I think yeah, it looked pretty seamless from that side. So, I think complimenting all the hard work that was done during...on the inside...yeah I think it transpired a pretty good...I mean I didn't see everything and I wasn't there for every single day of the event, so I can't really give my full opinion on that, but yeah I think from what I saw and I experienced, even as a researcher, I believe and I think it was a really good event.

England Hockey Interviewee 3: No, it was good and for us Christmas can't come quick enough so we can all get a rest and catch a breath.

Ricardo de Sousa: I can imagine haha

England Hockey Interviewee 3: As you can imagine, going in to the development world, where I didn't London until the 11th of August and I was straight into tutor recruitment on the 12th, and then pre-season and everything else going on...and 2 more youth tournaments nationally to hold so yeah...Christmas can't come quick enough Ricardo.

Ricardo de Sousa: Yeah I can imagine, well same for me...with the research overload. But okay, yeah...well, I appreciate you taking the time to talk to me...

England Hockey Interviewee 3: No problem.

Ricardo de Sousa: Thank you for that.

England Hockey Interviewee 3: No problem at all. If when you listen back and you transcribe stuff and you are not sure on things, drop me a message and I'll try and clarify them for you.

Ricardo de Sousa: Fantastic! I really appreciate that.

England Hockey Interviewee 3: Next time you see Mr.Barrett, give him my best.

Ricardo de Sousa: I will do, I will do. I might try and see him today, but if not, next week I'll pop in the office and yeah, I'll say hi to him. Okay...

England Hockey Interviewee 3: Okay then.

Ricardo de Sousa: Okay, thank you very much.

England Hockey Interviewee 3: Tell him he owes me a beer....

Ricardo de Sousa: haha...I'll let him know.

England Hockey Interviewee 3: haha okay, thanks Ricardo.

Ricardo de Sousa: Thank you very much, have a great weekend.

England Hockey Interviewee 3: Bye bye.

Ricardo de Sousa: Thank you, bye bye.

UK Sport Interviewee 1

UK Sport Interviewee 1: Hello UK Sport Interviewee 1 speaking.

Ricardo de Sousa: Hi John its Ricardo, you alright?

UK Sport Interviewee 1: Hello, how you doing?

Ricardo de Sousa: Not too bad thank you, how are you?

UK Sport Interviewee 1: Yeah good thank you.

Ricardo de Sousa: Is it alright to talk to you now then?

UK Sport Interviewee 1: Yeah yeah, I am working from home today so it is no problem.

Ricardo de Sousa: Okay, okay...hmmm, I just wanted to basically have a chat with you about the leveraging of the event...I know you mentioned that you weren't very involved with the...sort of that side of things, but hmmm...

UK Sport Interviewee 1: Yep...

Ricardo de Sousa: But I just wanted to see what obviously you can tell me about it and maybe you can provide me with a contact of someone who can provide me with further detail maybe?

UK Sport Interviewee 1: Yeah, just so I'm clear....leveraging from what perspective?

Ricardo de Sousa: So, what strategies were implemented by the event or for the event....even if it pre, during and/or post-event...so using the event to try and increase participation...well it could be obviously Hockey but from what I could gather and from what England Hockey has told me, they said UK Sport had a direct involvement with that, showcasing different sports at Fan Central. The reason why I focussed on Fan Central on the email was because that what they told me, but obviously if there is other stuff that you have done outside of Fan

Central that would be good to know. But just before we start I just wanted to ask, is it alright if I record this interview for my transcriptions for my PhD?

UK Sport Interviewee 1: Yeah sure.

Ricardo de Sousa: They will be anonymous anyway, so I won't put any names on it, but just for the purposes of relaying the information later on for the analysis.

UK Sport Interviewee 1: Yeah yeah that is fine.

Ricardo de Sousa: Okay. So to start off with, tell me what UK Sport's involvement was in terms of that leveraging side.

UK Sport Interviewee 1: Yeah, so...just going back to the very start when this event was first bid for, so that happened before the current government sport strategy, which I know if you are looking into it you know about the Sporting Future's Strategy.

Ricardo de Sousa: Yes.

UK Sport Interviewee 1: So, legacy and participation outcomes weren't targeted at those areas, because effectively this event pre-dated that strategy...and we didn't really required the events mid-planning to adjust their planning to meet the new strategy, because that wasn't what their funding was given to them for.

Ricardo de Sousa: Right.

UK Sport Interviewee 1: But what we do now going forward, outside of Hockey, so any event that applies for funding from UK Sport, has to demonstrate to us what their plans are for increasing participation or helping to deal with any of the social outcome agendas in the Sporting Future's strategies as part of their funding application and that is split into the main Sporting Future's strategy areas. Like directly split...so they have to tell us how they are going to address things like social strategies, economic impact, social mobility...that sort of stuff. It is now aligned to the Sporting Future's Strategy. But as I said, Hockey wasn't because it pre-dated that strategy, and the Hockey event it was part of a four year strategy

for the sport, so this was the fourth year...so its four events in four years...so the World Cup was effectively the last event in that cycle. So a lot of the legacy outcomes whilst they are being reported against this event particularly, they are actually a part of a four year pathway they created to try and get more people playing Hockey. Does that all make sense so far?

Ricardo de Sousa: Yeah yeah.

UK Sport Interviewee 1: I don't know if you...I don't know whether you guys would have been sent the post-event report, because I can go through it with you, but I can check if England Hockey...do you have a copy of it?

Ricardo de Sousa: No, they did tell me early doors, because I started speaking to them from December onwards, so obviously I attended the event and then I managed to get interviews with some of their members, and they did mention a report that was going to be published in January...and I did have a couple more interviews, I think it was in January, but they haven't necessarily given it to me. They have given me a lot of information in terms of the guide, so the 'Your World Cup' guide and the 'Passport' that they used at the event, and things that they implemented and what their strategies were leading up to the event, during the event, and then what their plan was after the event, but yeah I haven't got any sort of details as to what the impact was afterwards.

UK Sport Interviewee 1: Okay that is fine. Probably what I will do after this then is...if it's okay, is I will just drop in my England Hockey contact in an email and copy you in basically and asking if they don't mind me sharing this report with you.

Ricardo de Sousa: That is fine. Yeah yeah, fantastic.

UK Sport Interviewee 1: I personally don't think there is anything confidential in here, hmm...as long as you don't go and post it all over the internet...haha.

Ricardo de Sousa: No no no, I am really just looking at...like I said, having an idea of the impact of the event overall would be good, but my objective in regards

to this whole stakeholders section is basically just to see what exactly was done, if anything, to increase leveraging. What I did at the event was through a questionnaire, my during-event questionnaire, I asked the participants who attended the event, a sample, whether or not they had received anything, anything information, and the options involved things like, information about local clubs, sports programmes, etc...different ways of getting involved in the sport or actually doing sport and physical activity, whether it is Hockey or just general....and...so I have a notion from their perspective, as to exactly...for example what was the percentage of people who actually received something or didn't....and then through this, through these interviews, I am trying to see exactly what else was implemented.

UK Sport Interviewee 1: Yeah, okay. So I am basically going to ruffle through this report that is on my screen if that is alright?

Ricardo de Sousa: Sure.

UK Sport Interviewee 1: It is full of facts and figures....like I said it is part of a four year plan, so that started in 2015 and it is concluding around about now. They have some post-event activities which are doing as well. But this report runs through until September last year and basically the objectives of them were to get more people playing Hockey and primarily local people to Lee Valley, and also to try and increase the fan base of the sport nationwide...and that is both targeted at both adults and young people. So that included a 'schools programme' and they engaged with about 160 schools over the four years and as part of that they...a lot of the workforce development, so I think they trained up 573 teachers and coaches locally in the area to support that...it is quite a significant number. They have also been establishing new clubs locally and they did a World Cup Festival, so that happened during school time. 55 local schools attended that with some of the England Hockey players and that was the biggest event out of 50 local community events, which ranged from taster activities to promotional evenings and meet and greets with England Hockey players. They did quite a range of different stuff, but the overall aim was trying to get more people playing

Hockey and get more people to become fans of the sport...that was one of their key targets...it is like the strapline of the event really, is to create a nation where Hockey matters. So making use of the fact that they now have an Olympic Gold medal winning team and they've got all these major events...which helps Hockey break into the mainstream alongside your Rugby's, your Football's, your Cricket's, and you know, the sort of sports that roll off the top. The majority of people wanted Hockey to move into that space, and for a lot of sports that is an objective for them...to raise the profile...and I have got the reason to try raise that profile and it is for people to become more active and take on that sport, and for people to become fans of the sport. That generally is what we are looking for at UK Sport as well, our investment primarily is targeted at supporting the delivery of the event from an elite performance perspective...how do the elite objectives of that sport, how are they delivering economic benefit and the strapline focusses on all the social impacts, but the quite often...because they are all funded by Sport England...what we quite often do is those sports who fit in Sport England plans, and then just deliver them intensively in the locality, as the event does not necessarily bring anything particularly new.

Ricardo de Sousa: Okay.

UK Sport Interviewee 1: ...because obviously you know, the process with Sport England is quite thorough and robust anyway so, it is not a case of having to reinvent the wheel, we have already got the programmes designed, it is about delivering them locally, and having an impact which was their focus. So they had 6 strategy areas linked to their legacy outcome, so the strapline for the legacy of the event was "inspiring greater participation in local clubs and schools". Not exciting, but that was the strapline they used.

Ricardo de Sousa: It makes sense because that is the gist of what I have gathered from what they told me, which is a focus on clubs...so they told me how many clubs they had and what sort of plan there was with clubs...where everything is club focussed. So they rely on the clubs basically to increase participation. One of the questions I asked was how they tried to target different

people sort of at the event, to try and get them aware of all of the other opportunities, and it seemed like maybe they did a bit but it was mainly focussed on getting all the clubs nationally to promote and...the sport and get things going on that side. So yeah, that kind of makes sense in that way.

UK Sport Interviewee 1: Yeah, and there is an element to this which helps drive some of the commercial strategy of the event as well, in terms of selling tickets, because you have clubs interested in...if you have people interested in watching Hockey, they are more likely to buy a ticket than the old granny down the street so.

Ricardo de Sousa: Yep.

UK Sport Interviewee 1: There are always elements to these legacy plans that do link back to the commercial strategy of the events as well. So yeah, the 6 strategy areas they created under this buy and grow, was entitled 'inspire a generation', 'porting schools to deliver Hockey', 'offering more ways to play', 'setting more clubs', 'celebrating and supporting people', so that was very much around volunteers and officials...and another part of the strategy was during the event itself...so that was club central, and it was also about free ticket giveaways to school groups and clubs and that sort of thing, and the final section was 'post-event legacy', so analysing and you that inspirational boost that you will know plenty about, and then actually converting that into new members of clubs...and arrange what they call 'Hockey Fests', which are beginner focussed, so for non-Hockey people. Yeah, so during the Hockey World Cup element, I know that they kind of intentionally didn't focus too hard on delivering a lot of their legacy message in Fan Central itself, they did a little bit of it but not deeply, and the reason for that is, if somebody...because of where the venue was...you don't just stumble upon Lee Valley Hockey Centre you know....you go there because you want to go there to a degree...but people already had an interest in Hockey generated, whether an existing player or person has decided to buy a ticket...there is kind of no other reason for them to be in that area. So then the question was...you know...if these people are already interested in the sport,

what is the message we are delivering, and actually it was about them having an incredible experience that gave them a really positive view of Hockey. Not necessarily delivering leaflets to hands telling them where their local club is, it's actually about reinforcing their love for the sport.

Ricardo de Sousa: Right.

UK Sport Interviewee 1: Then kind of going back to that inspiration factor really....I am sure they did a little bit of activation at Fan Central...and one of the things that we did at UK Sport at our stand there which is where you would have seen or heard about some other sports having some space in there.

Ricardo de Sousa: Yeah.

UK Sport Interviewee 1: ...and that was kind of...A) England Hockey quite liked it as created a different kind of activation in that area, so a different experience...and it was cheaper than a face painter or balloon artist. If you ask England Hockey, that is exactly what they would tell you. But for the other sports...I know definitely Canoeing and Triathlon were there...I will find out which other sports were there as well. But UK Sport had a stand in there, it is part of our funding agreement, so we basically used that and allowed the other sports to come and showcase their sports.

Ricardo de Sousa: Okay.

UK Sport Interviewee 1: ...because for us we are not overly bothered if someone picks up a Hockey stick or becomes a runner or starts to take up Triathlon...as long as they become active, that is our interest.

Ricardo de Sousa: Yeah.

UK Sport Interviewee 1: hmm, which obviously links back to the government strategy, hence why were quite happy to invite completely different sports in....because you know, Hockey is not for everyone and that's okay.

Ricardo de Sousa: Of course.

UK Sport Interviewee 1: These other sports might have been, so anything we could do...and obviously there are sports who are really pleased to get that kind of platform to come out and promote themselves....and we do that fairly regularly. So, Para-Athletics World Champs a few years ago, I think there was something like 14 different sports were in the Fan Zone....hmmm...over the 2 weeks of competition, doing very similar activities...and again, for the host event it's a different kind of activity, it's a different way to get spectators to enjoy themselves, but for the different sports it's an opportunity to access a completely different market.

Ricardo de Sousa: Yeah yeah, of course. I mean from looking at the responses of my participants in terms of what sports and physical activity they actually do, yeah, a lot of them had other sports other than Hockey. I think there was a good portion of people which didn't even play Hockey, but they did things like martial arts, gym, athletics, swimming, etc. I was just wondering, touching upon what you said about, you know...having all those different sports like Canoeing which you just mentioned....hmmm, was it sort of different sports every day because as you said, the event lasted for a while...was it like different sports every day or was it the same sports, just in different parts of the marquee?

UK Sport Interviewee 1: hmmm, I think Triathlon were there for 2 or 3 days...what I will do, because I didn't manage it at all, my team did, I am going to drop them an email and ask them if they can send me over the schedule of what we had going on in our stand in the relation to the different sports and I will send that over to you.

Ricardo de Sousa: Yeah fantastic, and even if they can provide me with some further detail as to obviously them having the space there, and showcasing the sports, but how exactly did they showcase the sport, and sort of how actively sort of going around...even if they had people going to the main stadium...the main venue....because those are also the kind of things I asked England Hockey, and they were quite sort of....I suppose they were quite direct and honest and said well we just focussed on this side and didn't really go anywhere near that side,

so it gives me a perspective of okay, where were these strategies focussed on and implemented at. Like you said, people who go to Fan Central I would assume are people who are generally...you know...inclined to be active and know about Hockey and other sports, or watch it on the screens...whereas I'm guessing I could see, especially on certain days, when the games were let's say midweek, and in the afternoon/evening, a lot of them came straight from whatever the transportation station was, and just walked straight across to the main venue to watch the games. I guess you are coming from work or something like that, so that is one of the questions I was going to ask you...but I'm not sure if you have any details on this...in terms of non-active participants...do you have any sort of idea around...if it was a focus for UK Sport, but also if the impact...if any strategies were implemented specifically to try and target non-active people at the event?

UK Sport Interviewee 1: yeah so, the 2 sports which were there when I was there which are Triathlon and Canoeing, they were very much kind of contained to the space they had. They were allowed to walk around Fan Central, but they certainly weren't allowed into the stadium areas, and their activity was confined to the UK Sport stand. Hmm, and their activities...I know the Triathlon well because I used to work for them, I designed it many years ago...it's a kit children's focussed...basically it's a little activity which you don't need to have any level of fitness to be able to do it...where you have a go on the bike and you see how fast you can peddle for a minute, then you see how fast you can put swim goggles on, yeah it's just fun things to engage, but the whole point of that is whilst kids are doing that, the other staff are speaking to the parents about how to get their kid involved in the Triathlon. But they are also quite good at how to get involved in swimming, cycling or running, so if they are not particularly bothered about Triathlon, and just want to get involved in swimming, cycling or running.

Ricardo de Sousa: Right.

UK Sport Interviewee 1: They are providing an entertainment element to the kids so the parents are happy, which then frees up the parents to have an actual

meaningful conversation about getting active...because obviously the kid is probably going to forget about what they did 10 minutes later.

Ricardo de Sousa: Of course, yeah yeah.

UK Sport Interviewee 1: So it's almost a bit of a bribe...babysitting for a couple of minutes in exchange for a meaningful conversation with the parents.

Ricardo de Sousa: haha, yeah. Is the, now that you just mentioned, before I forget, so what you said about talking to the parents whilst the kids are having a go, was the focus also to try and get the parents involved in the sport and/or physical activity, or mainly just getting the youngsters sort of involved.

UK Sport Interviewee 1: It was both, basically the staff there are trained to work out quite quickly how they are most likely to have success out of this conversation, and take it down that avenue as quickly as possible, which they probably got 2 minutes.

Ricardo de Sousa: Of course

UK Sport Interviewee 1: But that links back into British Triathlon's programme called 'Go Try' which is their introduction novice level product which is Sport England funded, which is how they pay to be there which is through their Sport England 'Go Try' product....and they do that in shopping centres, sports events, in triathlons and football areas. They are not focussed on people who already do triathlon, they are not focussed on triathletes. But a lot of these sports are quite conscious that, and it's a key part of the Sporting Futures strategy, is keeping active people active, and they quite often switch sports, probably every 3 to 5 years. Quite often that is the point where people can become inactive, where they decide they had enough and jump to the next. A reason of going to sporting events is that it's their chance to potentially get involved in a different kind of sport than before that might keep them active as most sports do, what we are doing is delivering to try and achieve some outcomes from Sport England.

Ricardo de Sousa: Yeah yeah.

UK Sport Interviewee 1: They are not necessarily doing what is best for their sport, they are doing what will secure funding.

Ricardo de Sousa: Yeah exactly.

UK Sport Interviewee 1: It's one of the problems with any kind of funding model, regardless of whether it is a business or sport system. A business model always moves towards where the funding is coming from instead of what is best for the business.

Ricardo de Sousa: It is true. Unfortunately, that is the way it goes isn't it.

UK Sport Interviewee 1: Yeah, and canoeing took a slightly different approach, so obviously canoeing is quite a niche sport. I am saying that but you need to own a boat and have access to water which not all of us do. But they...so Lee Valley is also the home of their main venue as well...their white water centre.

Ricardo de Sousa: Oh okay.

UK Sport Interviewee 1: So canoeing we are doing a promotional link, so they want to speak to local people, get local people to go up to the venue, the white water centre and go and try out where all the equipment is. They are already local people, so the theory is lead them to the venue and get them hooked basically. That was a bit more of a simple approach, we did a very simple fairground style tombola and nearly everyone won a discounted ticket to go to the white water centre or free tickets to go to it...and that sort of thing.

Ricardo de Sousa: Yeah I mean, that's what I was going to ask as well, is what kind of incentives, because I know England Hockey had the partnerships with Adidas and Vitality, I guess the commercial sponsors....but they had...from what they told me, people who bought tickets and were getting involved with different things were given discounts to purchase things from Adidas, etc. So I was wondering whether you had that, but obviously you just mentioned that side of it...sort of incentives to take part or participate in sport and physical activity.

UK Sport Interviewee 1: There is very much a partnership between the governing body and the venue, so it works quite nicely....it addresses a couple of the key barriers to the sport really...equipment, cost and location....addressing all the 3 with the activity.

Ricardo de Sousa: As UK Sport, did you....obviously you talked about the involvement within the actual event itself....in obviously Fan Central and thereabouts, did you do anything to try and get people to go to the event or even be aware of sport and physical activity before (pre-event), or was it mainly focussed on 'okay we are going to have the sports like canoeing, triathlon, etc at the event for these number of days, doing this kind of activity, and then that's it.

UK Sport Interviewee 1: Hmmm, because we are not primarily a sport development agency, that's Sport England, we very much leave it up to the sports and Sport England to decide on what is going to work the best for them, and what is going to be most impactful. That's not our area of expertise, we are kind of just the facilitator. So we got 15 events in our programme for example this year, and we have spoken to all 15 and asked them which events would be happy for the sports to come along to and have a presence and we communicate all those opportunities out to the sports. It's up to them whether they want to take it up or not. You know, whether it is the netball world cup or the cycling championships in September, hmmm...we do our best to use our position to leverage opportunities. You know, and through our advice to the governing bodies when they are developing and organise their events, we are always encouraging them to look at....you know, can a sponsorship deal you are negotiating help support other objectives for achieving social impacts. Quite often you know, sponsors are really keen to get involved in their CSR strategies, and allows those companies to be able to access more funding and potentially make that sponsorship a reality.

Ricardo de Sousa: Right...

UK Sport Interviewee 1: Hmm, you know...I mean in my city in Nottingham we secured a lot of sponsorships through Boots previously, not through their

marketing department, which would traditionally be where sponsorship money comes from, through their social responsibility teams...giving them an access route into local communities. Through their CSR strategies they can also access money for the event. There's lots of different ways to look at it, ultimately it all comes down to availability of money and resources to deliver these things.

Ricardo de Sousa: Yeah of course.

UK Sport Interviewee 1: And that is where we struggle a little bit because the funding that we offer the sports is for the delivery of the event.

Ricardo de Sousa: Yeah yeah.

UK Sport Interviewee 1: A very small fraction is for their legacy...which is a frustration. But there is only so much money that is in the pot and that's how we have to focus it...and that's why we try to work with Sport England and other partners and local partners to try and leverage more legacy revenue.

Ricardo de Sousa: Yeah, I mean, in terms of...because again, from what I've been told from England Hockey, I assumed that Sport England were going to have on that's Sport Development side...participation side, that they were going to have a direct involvement at the event....obviously knowing that England Hockey falls within that remit anyway...

UK Sport Interviewee 1: Yeah.

Ricardo de Sousa: But since you guys as UK Sport were there and had an involvement, and your focus is on the delivery of the event mainly, and sort of performance sport....

UK Sport Interviewee 1: Yeah.

Ricardo de Sousa: Is there any reason why Sport England were not there per say, because the information I received was that they had no direct involvement whatsoever at the actual event...but since you guys don't really do the sports development side and the participation side, is there any reason why or.....?

UK Sport Interviewee 1: Hmm, yeah see you are straying into an area of continual frustration for us at UK Sport. I don't know whether you've heard of it, there's a fund that Sport England have called the 'Major Event Engagement Fund'....

Ricardo de Sousa: Not sure if I have heard about....

UK Sport Interviewee 1: If you google it you will find a page on our website will all the information on it.

Ricardo de Sousa: Okay.

UK Sport Interviewee 1: Now that fund was specifically set up a few years ago for major events funded by UK Sport to offer access to pay for legacy outcomes.

Ricardo de Sousa: Right...

UK Sport Interviewee 1: So you would think 'right that sounds perfect, that's exactly how it should fit'....the problem is most NGBs have really struggled to be able to meet the criteria to be able to access that funding.

Ricardo de Sousa: Right...

UK Sport Interviewee 1: Hmm, to the point where a lot have actually given up trying to access it, which is really disappointing from our perspective, and we've been trying to get Sport England to change the rules on how you access that funding and where it should be targeted at, but they have chosen not to for whatever reason. So, some of the sports have managed to access it, so Triathlon have managed, but quite often it's about targeting the inactive. That's the core focus of that fund, and in the last round of Sport England funding, Sport England identified that NGBs weren't being very good at targeting the inactive.

Ricardo de Sousa: Okay...

UK Sport Interviewee 1: So they started to fund other organisations out of the NGBs, which traditionally Sport England just funded NGBs....hmmm now they've

decided that governing bodies aren't very good at getting people inactive, they are very good at getting active people active.

Ricardo de Sousa: Right...

UK Sport Interviewee 1: Which there is a place for that, but they are not good at getting people off the sofas, off their TVs and out and running, playing track or playing Hockey or whatever. So they started funding non-NGB type of organisations like Parkrun for example. Hmm, which you know...organisations like Parkrun are very successful and that's fair enough. Hmm, but the problem is the major events engagement fund is focussed on the inactive...so it's this catch 22 with the fund where they have said to the governing bodies 'you are not very good at getting inactive people active, but the only way you can access this funding is if you do that'.

Ricardo de Sousa: Okay.

UK Sport Interviewee 1: This is why the governing bodies have now just given up trying to apply for it, in the majority.

Ricardo de Sousa: Right, it just seems really bizarre.

UK Sport Interviewee 1: Yeah, it is not, yeah...it's not lined up at all, and it's something we are continually trying to get Sport England to review. They've got a new CEO, so we are hoping we might get some traction on it soon.

Ricardo de Sousa: So essentially, at the Women's World Cup Hockey then, basically Sport England is left...and I guess England Hockey, to their own sort of devices to try and get you know inactive and active people involved with sport really. Is that...?

UK Sport Interviewee 1: Exactly...

Ricardo de Sousa: Right, so it's you do it your own way...obviously you don't know how to do it anyway, but it's up to you really to get as many people involved as possible in your own way...okay.

UK Sport Interviewee 1: Which is why it led Hockey down a strategic route of trying to just focus on local people using the gravity that event creates, to just learn about Hockey to find out more about Hockey...hmm, because that event locally gives them a reason to...because that's why they have such a strong local Hockey club base...because they knew they could work with their existing Hockey club base.

Ricardo de Sousa: Right...

UK Sport Interviewee 1: Hmm, to try and drive through more benefits through that way, rather than try and tackle the inactive....which is a real shame but yeah. Basically I think what's happened is, everything is just a little bit out of alignment to the new strategy...nobody's had the bird's eye view really...hmm...to change it all around and make sure it's all streamlined and all working together, rather than slightly out of sync which it appears this fund is. But yeah, if you go on the Sport England website and they got a whole section on it and there's a guide on the Sport England engagement fund, which I believe is running through until 2020.

Ricardo de Sousa: Well they have funding but if nobody is really accessing it, it is a bit pointless having the funding.

UK Sport Interviewee 1: That's the challenge we pose to the new CEO exactly.

Ricardo de Sousa: Yeah, but obviously I am no sort of...I am not within that area in terms of work or anything but looking on the outside, as a potentially inspiration effect, you know, academic expert in the future hopefully, then yeah, it just seems a bit bizarre having those resources available....hmm, and you can go to an event and actually you know, do stuff....you know....implement some good projects involving non-active people...because yeah the majority of people who attend these events...yeah, they are active...that is sort of a given and research does suggest that...and even mine at the moment is, you know, the vast majority of the participants that I surveyed...they are already active in some capacity...hmm, but not every single person is a regular one, you know, and they do sort of limited

amounts of sport and physical activity. So there's ways of getting people to do other sports as well or even do more sport as well....because I mean that's one of the things that I am looking at...that my PhD focusses on...I am trying to measure attitudinal and behavioural change of major sporting events attenders...so using the TTM model basically to show that, going from Pre-Contemplation all the way to Maintenance, etc...so, doing that....but that's why I wanted to get a grasp of the stakeholders involvement in terms of the leveraging side, and what strategies in specific were implemented for this event...

UK Sport Interviewee 1: Yeah, I think from our perspective, Sporting Future's outcomes are really important to every funding application, which unfortunately we are not in control of the funding pot that can help the sport deliver those objectives. So, as much as we make it part of our assessment, part of our scoring criteria...and require the sports to do quite a lot of work, it's up to them to resource it.

Ricardo de Sousa: Yep.

UK Sport Interviewee 1: I mean we can't do that, that's why you hit the blocker because most NGBs are under a limited budget, and just can't outside their existing capacity, they struggle to bring to bear any additional resource in that area. So they then rely on the host city potential to provide extra instruments, which is not always necessarily forthcoming.

Ricardo de Sousa: Yeah yeah.

UK Sport Interviewee 1: Hmm, and you know, one thing when I worked in Triathlon I always really found quite hard was the social impacts require much a bigger scale to deliver a real scale of impact. Whereas these events tend to have a relatively short life span, they come and they go.

Ricardo de Sousa: Yeah.

UK Sport Interviewee 1: Unless they are annual events...because there are annual events which I believe you can build some of the most important sport development strategies around one off events it's really difficult.

Ricardo de Sousa: Yeah.

UK Sport Interviewee 1: They just come and they go and unless they are the biggest events with the highest profile, which quite frankly a lot of the sports that we work with don't have a huge profile amongst Joe Bloggs down the street. It's...yeah delivering those programmes for a single year is really tough to get a decent outcome from.

Ricardo de Sousa: Yeah. Looking....I mean, just sort of to finish off, but the...because obviously you mentioned the different sports not having access to the actual main venue, so they were confined to that particular area within Fan Central. So there was literally nothing...sort of no info booths...I know you obviously mentioned that having leaflets wasn't really the thing you were sort of focussing on, but...so in terms of targeting people going to the main venue, so those of them who for different reasons bypassed Fan Central and went straight to Lee Valley Stadium, was there anything that you did there...or was it literally going 'no no no we are going to stay here...confine ourselves here and whoever comes through here, whether it's just active people or whatever we obviously target them, but besides that it's not up to us, it's more up to England Hockey to try and....

UK Sport Interviewee 1: Yeah, yeah it was up to England Hockey to do whatever they wanted to do in the stadium and our role is all about successful event delivery.

Ricardo de Sousa: Okay.

UK Sport Interviewee 1: I know England Hockey they had things in the programme and activities around the half-times and breaks between matches to try and engage people as much as they could....and some of that they...actually

one of my friends took part in it was 'Master Hockey' I think they call it, having small games during the half-times and the breaks between matches to show that it's not just about getting kids involved, but you can be 65, 70 and still play Hockey. So I thought that was really good. But ultimately, it was just information I believe delivered through the programmes, which people would choose whether to buy or not.

Ricardo de Sousa: Right okay, so the programmes were not free, you had to purchase a programme then.

UK Sport Interviewee 1: Yep yep. Which they sold at a crazy amount.

Ricardo de Sousa: Really?!

UK Sport Interviewee 1: Yeah yeah.

Ricardo de Sousa: I mean I didn't get one so, I was there but my focus was just going and surveying people, I didn't read too much into that the programme, but yeah because I know that...I know typically even in football games they do sell programmes at like £3 or £4 or whatever it may be, but I wasn't sure if at a major event like this if it was going to be the same or not but...hmm okay.

UK Sport Interviewee 1: I can find out how many they sold....hmm, well they had over 100,000 in the stadium in terms of people. Let me see....programme sales...trying to see if they got a number of how many they sold...

Ricardo de Sousa:because I know they mentioned as well having the passport for kids, which I am not sure if adults were also able to do, but going around and doing different activities...so that was good, but I am guessing that was free then...

UK Sport Interviewee 1: I can't find out how many....

Ricardo de Sousa: it's okay, I mean if you can find out if they are happy to share it....I mean they did tell me at the beginning that they would publish it, so I would be able to look at it, but I know that maybe some of the information they don't

want people to see so...I don't know....if you could maybe find out or see if I can look at some parts of the report then that would be great. It's literally just for me to see what exactly they tried to target in specific and what did they do, and exactly what the outcome was from what they obviously investigated and I guess try and bring everything together and see...you know...what was positive and what was negative and so on. But also, if you can find out from any of your colleagues who were directly involved with that side of things, so the leveraging side and what were the different sports at the event to try and give me some more detail.

UK Sport Interviewee 1: Yeah.

Ricardo de Sousa: I know you already gave me some detail on a couple of sports but it would be good to have a sort of more overall picture of what else was implemented to kind of enhance my analysis in my thesis really.

UK Sport Interviewee 1: Yeah, do you know who it was that you spoke to at England Hockey?

Ricardo de Sousa: Yeah, I spoke to a few people, I mean I have been emailing a few of them and sort of had a bit of a chat with some of them about different things...but yeah, I think there has been a lot of cross posting...trying to get hold of the right person to talk about the right kind of thing, but so far everything that I have asked, including you have said...kind of matches what they've told me.

UK Sport Interviewee 1: That's good.

Ricardo de Sousa: So, on that side its fine, obviously the reason why I wanted to speak to you is because they didn't know exactly what UK Sport did specifically at Fan Central. They knew that you were there, and that you had...you were showcasing different sports...they mentioned things like cycling...they kept mentioning cycling as one of the sports...hmm, so I thought 'oh great', but that's why I sort of wanted to get....but the reason why I spoke to a few of them was because they each had a different kind of involvement with the event....so I know

one of them was more on the umpiring side of things...officialing side, so I also wanted to know more about that because for me it's not just about participating in sport like actually doing sport and physical activity, but getting involved in the sport in the sport in a different capacity. So, he was able to sort of give me more details about that which was quite good...hmm, but yeah.

UK Sport Interviewee 1: It might be worth speaking to a lady called Nicky about the volunteering programme because that was quite successful.

Ricardo de Sousa: Nicky, okay.

UK Sport Interviewee 1: Nicky Millfield, I will introduce you.

Ricardo de Sousa: Oh thank you.

UK Sport Interviewee 1: That will be helpful

Ricardo de Sousa: Thank you, that sounds good.

UK Sport Interviewee 1: They had a really successful volunteering programme and I will see if they are happy to share it with you, it's got loads of stuff about volunteering here as well.

Ricardo de Sousa: Oh fantastic.

UK Sport Interviewee 1: I am looking at some details here....this is the version that tells you what went wrong as well as what went right so.

Ricardo de Sousa: Right okay.

UK Sport Interviewee 1: But they might be happy to share it with you...but yeah I will speak to Nicky and I will find out more about Fan Central for you.

Ricardo de Sousa: Yeah that would be fantastic...anything that you know could help me with the leveraging side and participation in sport, and like I said all of the volunteering stuff...that would be fantastic....so I can sort of have a good notion of what was going on. At the moment the pieces are kind of coming together...so I am sort of seeing the different sides of it...the participant's side of

it, what England Hockey have experienced and have seen...and can tell me sort of what you are telling me now, so everything is sort of coming together...but yeah just trying to get the final pieces in so I can then just analyse them and hopefully get the writing up done.

UK Sport Interviewee 1: Yeah yeah, and have a look at that Sport England stuff as well...if you have not found it I can email that across to you.

Ricardo de Sousa: Cool, well I don't think I have anything else I want to ask you, I have pretty much covered the bases, it's literally just about the event and the leveraging and what was done to use the event to sort of increase participation in sport and physical activity in different capacities, but yeah, thank you very much for time, I appreciate that...I don't want to keep you any longer because I know you probably have a lot of work to do...so thank you for that.

UK Sport Interviewee 1: No problem.

Ricardo de Sousa: Have a good day and a good weekend. Thank you very much!

UK Sport Interviewee 1: Thank you, bye bye.

**Appendix J –
Email to Participants of Post-Event Questionnaire**

PhD Research – Women’s Hockey World Cup Hockey

Dear Participant,

Thank you very much for taking part in my research at the 2018 Women’s Hockey World Cup in London. Your help with my PhD is greatly appreciated and highly valued.

As mentioned at the event, my study is about the inspiration effect of major sporting events in the UK, in particular looking at attitudinal and behavioural changes of event attendees. I would be incredibly grateful if you would fill out my **Interactive Post-Event survey** (you will be able to fill the survey using **ONLY** your mouse and your keyboard - so will **ONLY TAKE A COUPLE OF MINS**), which would allow me to have all the data I need to complete my PhD (**YOUR SURVEY COMPLETION IS APPRECIATED AND ESSENTIAL**). Alternatively, please provide a phone number if you prefer to answer the survey over the phone. It will be completely **ANONYMOUS** and **CONFIDENTIAL**.

Your response to this survey is very IMPORTANT and ESSENTIAL to my PhD. Please take a couple of minutes to fill out this final survey (attached) – your contribution is greatly appreciated.

The deadline for completion of this survey has been EXTENDED to the **24th of February 2019** at 23:59pm. By **completing** the survey, you will be given a **£5 gift voucher** (**you are able to opt out from this voucher if you wish**), which can be used at a range of stores across the UK and will be sent via emailed shortly after the deadline. In addition, you will be **helping a PhD student with their final part of the data collection** 😊

I would like to thank you in advance for your willingness to be contacted and answer some further questions, following your attendance at the Women’s Hockey World Cup, and for your time filling out this research survey.

Have a great week!

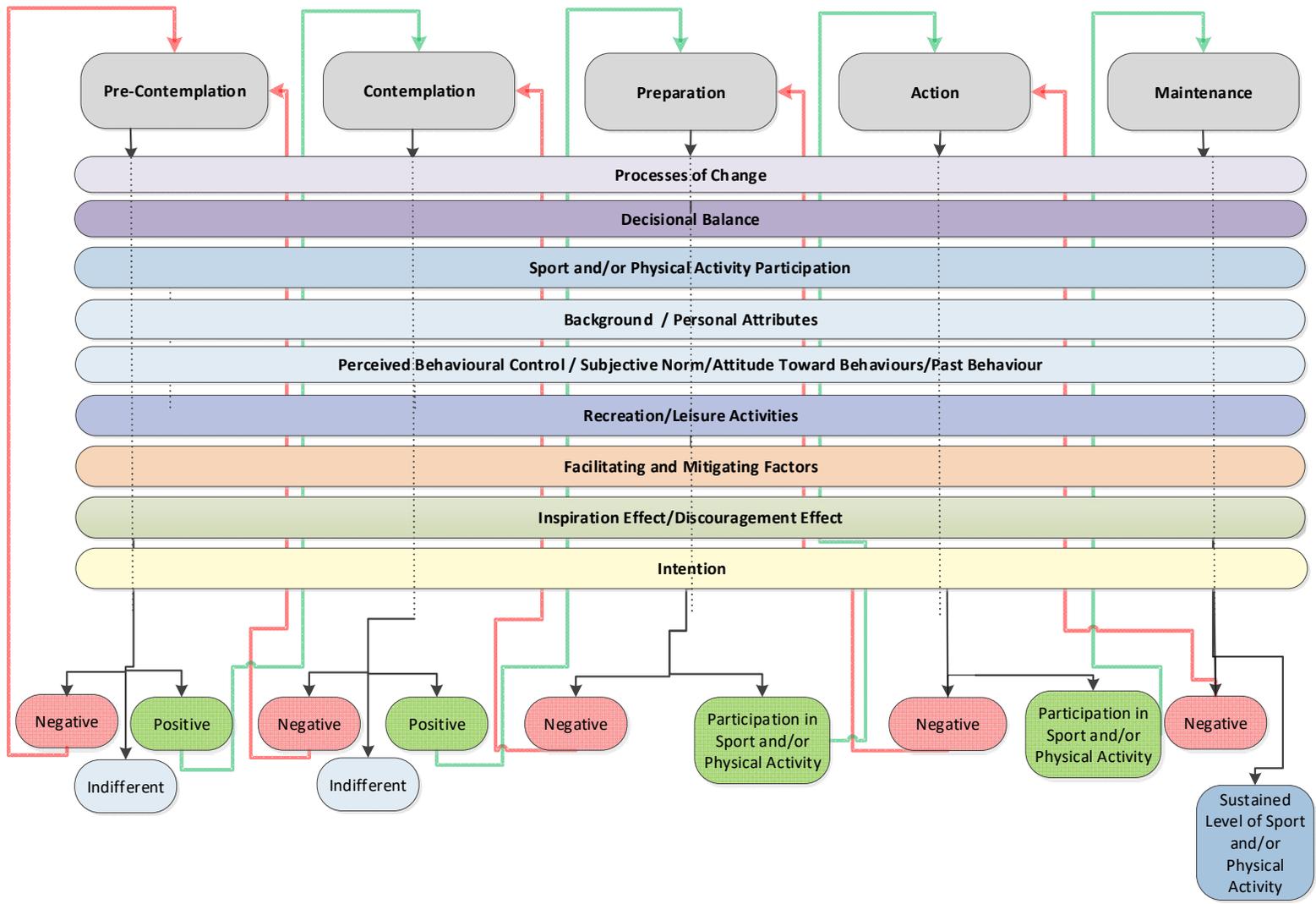


Kind regards,
Ricardo de Sousa
PhD Student

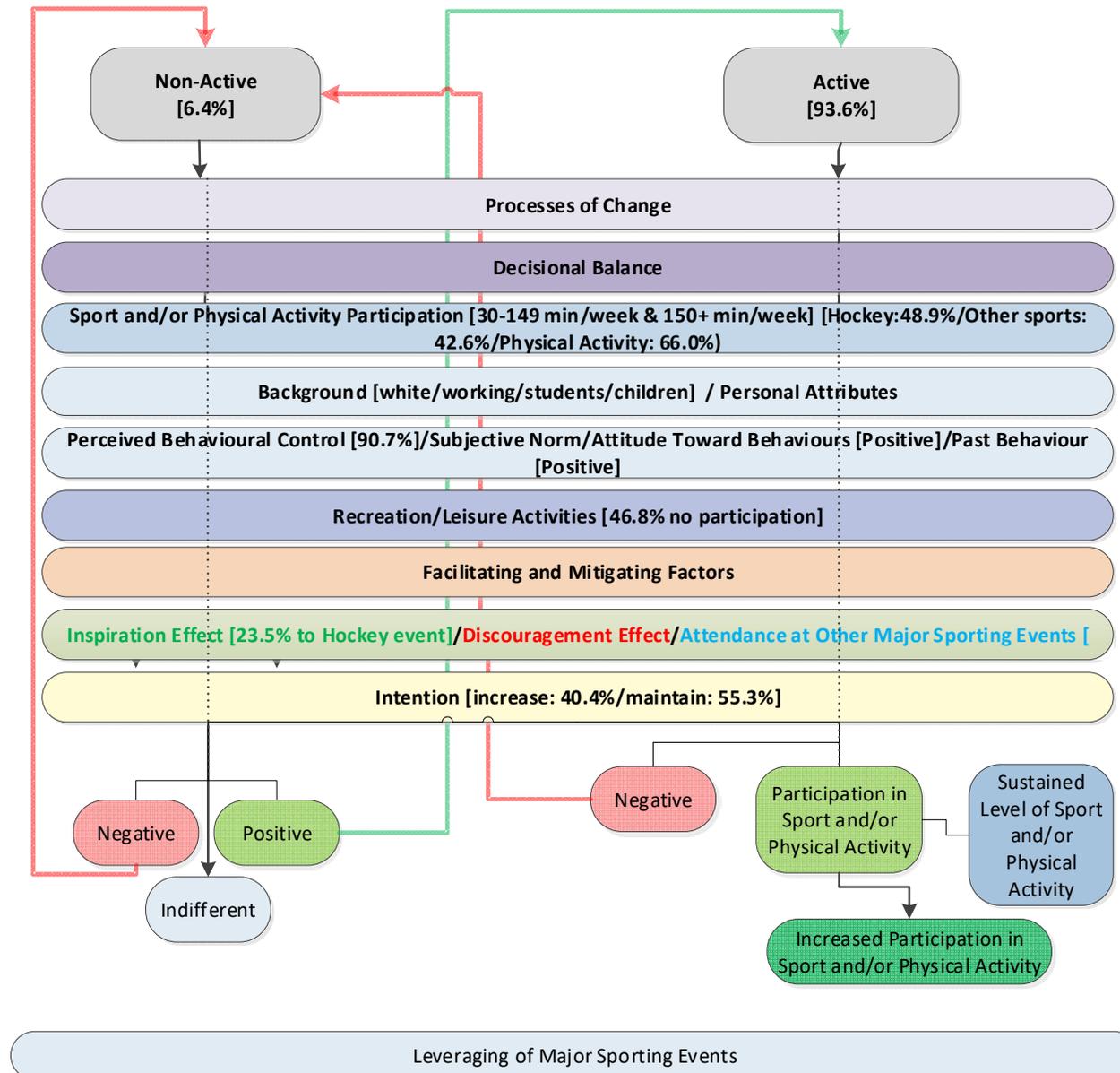
Sport Industry Research Centre

Sheffield Hallam University

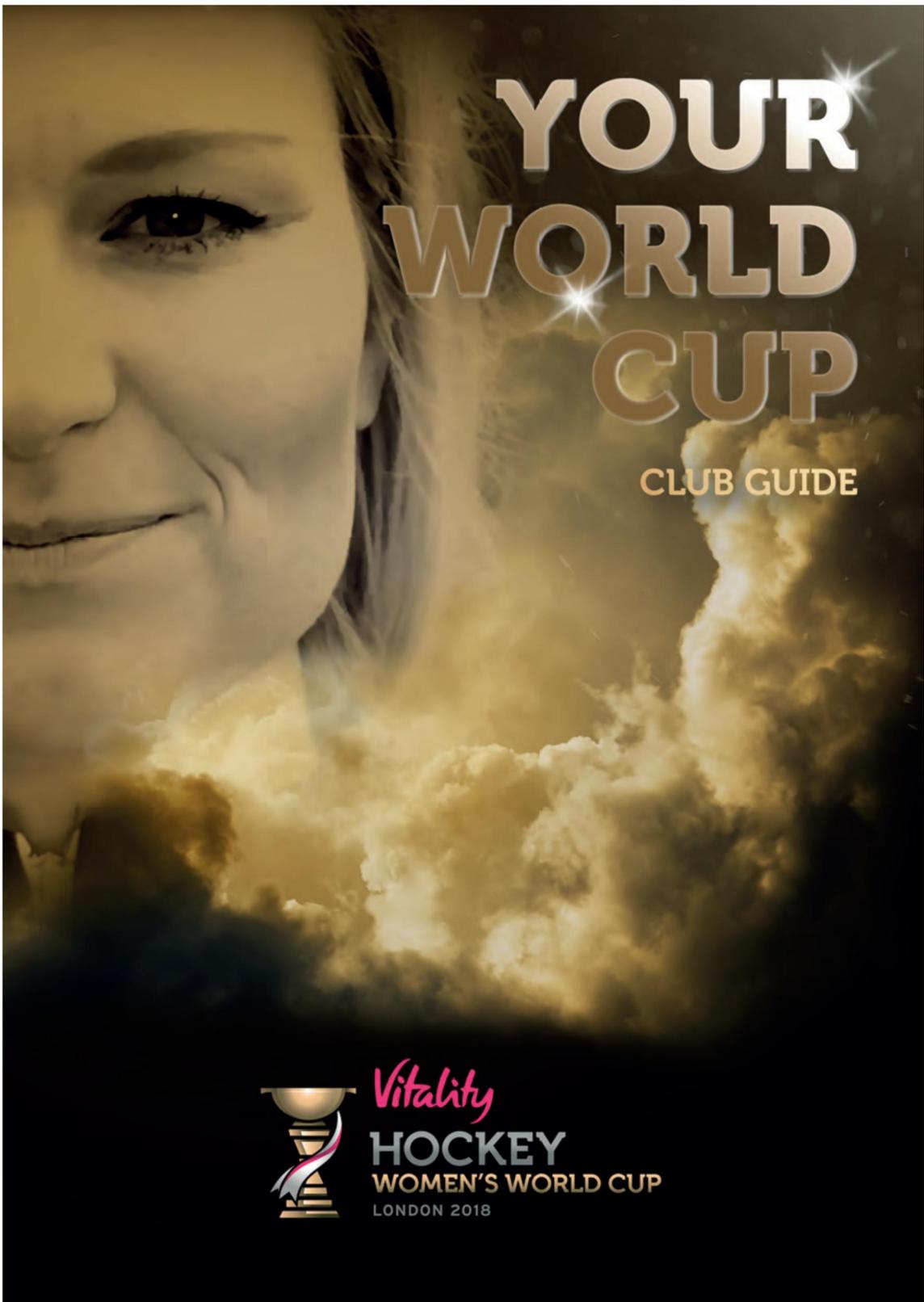
**Appendix K –
EIBC Model - Pre/During-Event**



**Appendix L –
Conceptual Model - Transformed**



**Appendix M –
‘Your World Cup Guide’ – England Hockey**



YOUR WORLD CUP

CLUB GUIDE



Vitality
HOCKEY
WOMEN'S WORLD CUP
LONDON 2018

VITALITY HOCKEY WOMEN'S WORLD CUP IN NUMBERS

THE EVENT

 2018		
21st July - 5th August	36 Matches	16 Teams

TICKETS

105,000
Tickets
applied for
which is equivalent to...

 7x Wimbledon Centre court	 1 x Wembley Stadium
 120 London Underground Trains	 30,000 double decker buses

WHO HAS APPLIED

 65% Female	 35% Male	 370 Clubs	 54,165 Club Tickets
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CONTENTS

The campaign will cover:

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- 05. During The Vitality Hockey Women's World Cup 32
- 06. Post-Event Legacy 38

Sally Munday
CEO, England Hockey



In the summer of 2018 we will be hosting a Women's World Cup in Hockey for the first time in our history! This will be a huge moment our sport as over 100,000 tickets have already been sold. As the event hosts, England Hockey, with our partners, staff and volunteers are committed to delivering a world class event for spectators at the event and the 1 billion+ audience who will watch across the world.

Thanks to our amazing hockey clubs and volunteers, hockey has seen a 40% growth in the number of people playing in clubs since Team GB women won bronze at London 2012. England Hockey's ambition is to create a 'Nation Where Hockey Matters' and hosting a home World Cup presents us with another golden opportunity to grow our game. To celebrate the Vitality Hockey Women's World Cup we are launching our largest participation campaign to date. We would love you to get involved because this can be Your World Cup too!

Alex Danson
England & GB Women's Captain



The best teams in the world will be competing on our doorstep in London next summer and we hope that hosting the Vitality Hockey Women's World Cup is going to have a positive impact on the whole hockey family.

We would love hockey players and volunteers at clubs across the country to be at the heart of this World Cup and more people to play, watch or volunteer as a result of it. Whether that's travelling to Lee Valley Hockey and Tennis Centre to watch the games live; getting a group of friends together to watch the matches or hosting activities for new and existing players, everyone can be involved!

Interest in our sport has rocketed since the Rio and London Olympics, and this World Cup presents us with another exciting opportunity to achieve even more. Clubs are offering a friendly, sociable and welcoming environment for new and existing players – let's continue this great work and as a result of the Vitality Hockey Women's World Cup we can inspire more people than ever before to play and enjoy our fantastic sport!

To help make the most of this opportunity we are launching Your World Cup, which aims to inspire clubs to seize the opportunity of hosting the next biggest event after the Olympics, a World Cup on English soil.

The Vitality Hockey Women's World Cup will further increase the visibility of the sport at both a national and local level, and by working together we want you to be ready to capitalise on this increased visibility to see if you can provide opportunities for more people than ever before to enjoy our great game!

We know that each club is unique and through Your World Cup we will share a variety of tools, resources and support so you can select what works best for your club to help it grow and develop further.



WHAT IS YOUR WORLD CUP

> WHY SHOULD MY CLUB GET INVOLVED?

With the incredible increased visibility around this event and our sport, we are expecting a huge amount of people to be inspired to join their local club. Since 2011, the number of people playing club hockey has grown by 40%. Will you be ready to make the most of this golden opportunity for growth?

Affiliation data shows that the clubs who benefited most from the increase in club members were the ones who were planned and prepared. How will your club use the Vitality Women's World Cup to inspire new players, volunteers, coaches and or umpires within your clubs and wider community?

Your World Cup will support your club by offering:

- Free resources
- Promotional tools
- Once in a lifetime opportunities at the Vitality Hockey Women's World Cup
- Plus much more!

Sign up at www.englandhockey.co.uk/YourWorldCup

WHY GET INVOLVED?

01

INSPIRING THE NEXT GENERATION

JUNIOR PARTICIPATION

There are 80% more under 16 players in hockey clubs across the country than there were in 2011. This is an amazing achievement, thank you for everything you have done at your club to help make this happen!



JUNIORS

INSPIRING THE NEXT GENERATION

> WHAT COULD YOUR CLUB DO NEXT?

- **Capitalise on the increased visibility of hockey** and be ready to proactively promote your club's junior opportunities locally – via your website, local schools, or through local media. Woking HC bagged a slot on their local radio station a year on from the success in Rio to talk about their development and to promote their HockeyFest event.



- **Don't forget that parents are key to bringing new junior players along!** How can you make sure parents know what's on offer and what to expect, and what can you provide to ensure they have a great experience too? West Bridgford HC provide an indoor space for parents during their Sunday junior sessions where volunteers from the club run a coffee and cake bar. This provides parents with a warm, welcoming and social area, whilst also raising funds which then go back in to the junior section of the club.

- **You could offer a flexible and open session to encourage new players to come and give it a go.** Chelmsford HC hosts an alternative junior session; pay and play for £3 giving anyone an opportunity to pick up a stick.
- **Be ready to maximise other opportunities when hockey is on TV** - for example host free sessions during key times like the

Commonwealth Games where people will be seeing heroes like Alex Danson or Barry Middleton on TV.

- **Maximise the use of your pitch space to get as many juniors playing as possible!** Alderley Edge HC has over 400 juniors and they cater for this many by splitting their sessions over different nights of the week.



> HOW CAN BEING PART OF YOUR WORLD CUP HELP?

- **Provision of extra support for junior deliverers** - free session plan templates and new videos of fun and engaging session ideas for large groups and mixed abilities can be accessed via the Hockey Hub.
- **Exclusive invite to locally run Continuous Professional Development events aimed at supporting junior volunteers to deliver fun, safe and engaging session.** Hosted by a GB Coach Developer this is a great opportunity to come and share ideas and best practice, and help solve common coaching dilemmas faced with this age group. Take away a free gift to help you embed this learning back in your club.



- **You have the opportunity to win a Quicksticks equipment bag to support your junior delivery.** Access to tools will be available to help you to put on Quicksticks or beginner junior hockey festivals.



- **Win World Cup promotional materials to help dress your pitch, social space and / or club house, to help give kids and their parents a fun and memorable experience when they come along.**
- **Access to free World Cup themed giveaways for your junior players to help inspire them to want to be just like their hockey heroes!**
- **Attend your local 'Your World Cup forum' and get support from your Relationship Manager, as well as sharing ideas with other clubs.**



02

SUPPORTING SCHOOLS TO DELIVER HOCKEY

We know that 60% of junior club members experience hockey for the first time at school. Making sure this first experience is as positive as possible is so important to help encourage more young people to want to continue playing and join their local hockey club.

Creating links with local schools and supporting their delivery is a great way for clubs to engage with more young people. Your local Relationship Manager can give advice about how you can create links with local schools if you're looking for some help.



SCHOOLS

SUPPORTING SCHOOLS TO DELIVER HOCKEY

> WHAT COULD YOUR CLUB DO NEXT?

- **Engage with Quicksticks** - Played with bigger, lighter balls, Quicksticks is perfect for junior beginners. It also has simple game cards which are easy for teachers or coaches to use. This format of the game has revolutionised hockey delivery in primary schools, so provides a perfect way for your club to engage with local primary schools.



- **Pro-actively promote your club within local schools** – Wimbledon HC have a programme called Quick Start hockey where they go into school assemblies and inspire kids to want to give hockey a go and then link them back to the club.
- **Offer to go in and run sessions during curriculum time or after school clubs** - Formby HC had an aspiration to develop their junior section so set up a schools programme. They now deliver in a number of local schools to around 130 school children per week. The programme is run by a retired teacher and uses students on



gap years to deliver the coaching. Over the course of two years, this programme helped their junior numbers increase from 100 to nearly 300 members.

- **Offer to host festivals for local schools on a regular basis** – Northampton HC regularly host Quicksticks festivals for local primary schools. They run lots of small sided games and are able to cater for 90-100 children per festival. The festivals bring parents along to the club too and all of this helps to raise awareness of the club within the local area.



> HOW CAN BEING PART OF YOUR WORLD CUP HELP?

- You'll have instant access to downloadable flyers and templates which you can edit and personalise as you wish to help promote your club within local schools.



- England Hockey is hosting free teacher workshops to encourage more teachers to choose to deliver hockey in their school – help signpost teachers in your area to these courses to boost hockey delivery within your local schools!
- Schools will have the chance to win an Ultimate Quicksticks Festival Pack by purchasing Quicksticks balls in January and February 2018. Encourage any schools you work with to buy some balls to be in with a chance of winning these one off packs.



- We are working with England Netball and the England & Wales Cricket Board on a project called Team Up that makes the most of our three consecutive home Women's World Cups. Our aim is to get girls in schools to be playing more team sport. See www.teamupengland.com
- Contact your Relationship Manager who can help support you and help build relationships with local schools



03

OFFERING MORE WAYS TO PLAY

Lifestyles are busier than ever before and the demands on people's time are ever increasing. This is resulting in a significant shift in the way people engage with all sports, and hockey is no exception!

Whilst hockey's traditional league game is still thriving, there is an increasing need and demand for hockey clubs to provide a variety of ways to play to engage and retain more people. Some of these are now well established in clubs such as Back to Hockey but there are a range of other opportunities as part of Your World Cup.



WAYS TO PLAY

OFFERING MORE WAYS TO PLAY

> WHAT COULD YOUR CLUB DO NEXT?

- **Provide flexible pay and play opportunities** - Northampton HC run a pay and play night during the week. They split the pitch into thirds; one third is used for Back to Hockey, one for a community session and one for small sided games for club members. This means pitch space is fully maximised and appeals to different types of groups.
- **Organise more small sided hockey** – 5, 6 and 7-a-side versions of the game are a great way to provide flexible pay and play sessions. They maximise pitch space and they give players lots of touches of the ball, it's perfect summer hockey! In East London a local facility hosts a 7-a-side league one evening a week for seven weeks over the summer.
- **Enter a team into England Hockey Summer Champs.** With local 6-a-side leagues and a national knock-out competition. They are the perfect opportunity to get a group of friends together for some summer fun!
- **Get involved with Back To Hockey** – be part of the springtime campaign by offering a gentle introduction or re-introduction to the sport. Keynsham HC attracted 17 ladies to their Back to Hockey sessions. Ten are now play league hockey and six are attend training sessions.



The enthusiasm these new members have brought has given the ladies section a real boost and enabled them to maintain three teams in the league. An unexpected bonus was finding a fabulous new GK for the 3rd team!

- **Offer Walking Hockey sessions** – increasing in popularity, Walking Hockey is perfect for players who are looking for a less physically demanding version of the game. Bromsgrove HC see over 50 people attend their Walking Hockey sessions, from people coming back from injury to the older generation who want to keep active, proving that hockey really can be a sport for all!
- **Provide Flyerz Hockey** – This offers an alternative way to play for players with physical or mental difficulties. England Hockey is working with Access Sport to develop this format further, so get in touch if you would like to deliver Flyerz Hockey. Waltham



Forest HC have been running regular Flyerz sessions since 2011 through the creation of links with local schools and community groups.

> HOW CAN BEING PART OF YOUR WORLD CUP HELP?

- **Check out our Ways to Play advice** which can be found on the Your World Cup website www.englishockey.co.uk/yourworldcup. This will help you determine which alternative formats might be best for your club. Speak to your Relationship Manager for ideas on how these could work at your club.
- You'll have access to 'off the shelf' delivery packs for the various Ways to Play – these will include guidance / top tips documents to help you understand and deliver each format along with a range of promotional templates to help you engage with your target audience.



- You'll be able to access downloadable flyers which you can edit and personalise as you wish to help promote within your local area.



WAYS TO PLAY

- Via the Hockey Hub you will have access to Back To Hockey video session ideas which can help your deliverers put on engaging and enjoyable sessions.
- You will get regular communications about opportunities to enter the new England Hockey Championships. There is something for everybody with junior, mixed and adult summer competitions. Sign your team up at www.englishockey.co.uk via the competitions page.



04

CELEBRATING & SUPPORTING PEOPLE

From sitting on club committees, coaching, umpiring to co-ordination and organising junior activity, it is volunteers that make hockey happen!

In this unique World Cup year we want to celebrate and thank the thousands of current volunteers who give so much to the sport, and also help to inspire the next generation of leaders, coaches, umpires and organisers!



PEOPLE

CELEBRATING & SUPPORTING PEOPLE

> WHAT COULD YOUR CLUB DO NEXT?

- **Sign your existing volunteers up to workshops** for umpires and coaches to help develop and build their confidence. These take place all year round so there are plenty of opportunities to learn more!

- **Recognise the work of key volunteers within your club** and generate useful local PR by nominating them to your local sports awards. Durham Dales HC are less than a year old and have been nominated for the North East Sport Award for club of the year for growing by over 70 members. Local PR provides fantastic publicity within the local community and helps promote the great work your club does.



- **Nominate people who make the difference at your club** to be recognised at the England Hockey Awards Dinner. As well as a big thank you, a range of award categories are available from Unsung Hero to Rising Young Star. Nominations open in February 2018.



- **Make opportunities to get involved with the running of the club as open and as clear as possible** Sevenoaks HC do a rota with junior parents who help out at sessions. They have seen great positivity to this scheme and have even attended Back to Hockey sessions.



- **Run Young Leaders courses for your junior players** – this will introduce them to other aspects of the game such as assisting with coaching, umpiring or organising junior festivals. Young leaders will gain valuable experience, great content for their CVs, and you generate a bigger workforce!

> HOW CAN BEING PART OF YOUR WORLD CUP HELP?

- **Exclusive invite to locally run Continued Professional Development events** aimed at supporting junior volunteers to deliver fun, safe and engaging sessions. Hosted by a GB Coach Developer, this is a great opportunity to come and share ideas and best practice and help solve common coaching dilemmas faced with this age group. Take away a free gift to help you embed this learning back in your club.



- **Opportunity for your coaches to join us at a national coach development event** being run at the Vitality Hockey Women's World Cup. They'll hear from guest speakers, pick workshop topics, and network with other coaches.

- **All clubs signed up to the campaign will be invited to send photos in to flag their champions or unsung heroes.** These people will feature in a great big thank you wall at the 2018 England Hockey Annual Awards Dinner, and some will receive a personalised thank you message from an England international!
- **Once you've signed up you will receive regular information on training opportunities for volunteers, coaches and umpires** so it will be easier to keep an eye out for opportunities in your area.



- You will be provided with direct access to the Pass It On leadership tool kit which will be packed full of tools and ideas to help young people take their first steps in managing, coaching, umpiring and organising festivals
- The opportunity to nominate up and coming young leaders to attend the inaugural Future Leaders event which will be held at Lee Valley Hockey and Tennis Centre during the Vitality Hockey Women's World Cup.



05

DURING THE VITALITY HOCKEY WOMEN'S WORLD CUP

From Penzance to Morpeth all eyes will be on the Vitality Hockey Women's World Cup between 21st of July and the 5th of August.

Whether you're planning on attending the event in London or watching at your club, there are lots of ways to bring your members and local community together to be part of the action.



DURING YOUR WORLD CUP

DURING THE VITALITY HOCKEY WOMEN'S WORLD CUP

> WHAT COULD YOUR CLUB DO NEXT?

- **Be ready to maximise the opportunity of hockey's increased visibility** – you could host free family sessions to encourage people to come and give it a go and find a way to play that suits them!



- **World Cup-ify your clubhouse or club's social base** – you could then run social events to coincide with one of the England matches been shown live on TV, and get behind the England team once more!

- **Change up your junior sessions or summer hockey sessions by getting teams to choose a country competing in London.** To kick off the new season with a bang, you could run a World Cup themed junior festival.



- **Engage with local media such as newspapers and radio, and tell them what you have planned.** Local media outlets love a good community story and your club will get some great local PR coverage.
- **If you've missed out on England tickets, you can still come along to the Spectator Village on Queen Elizabeth Olympic Park** (which is right next door to the hockey pitch at Lee Valley Hockey and Tennis



Centre) during the event. It will be free for anyone to attend, and will feature fun hockey activities, a street food market and a giant live screen showing the games so it is a great way to have a memorable day out on Olympic Park!

> HOW CAN BEING PART OF YOUR WORLD CUP HELP?

- Clubs that sign up can apply for party packs to help get the party started; decorate your clubhouse, take over a pub or local community centre and show the England games live on TV.
- We're providing a range of ideas and support tools to help clubs offer a variety of Ways to Play to different audiences, and develop different sections of their club, check out the Ways to Play section for more ideas.
- Any activities that you have planned will be advertised centrally through the England Hockey Play portal, making it even easier for people to find out about them. Some may also get mentioned within TV coverage of the event!



- Opportunity for your coaches to join us at a national coach development event run at the Vitality Hockey Women's World Cup. They'll hear from guest speakers, pick workshop topics and network with other coaches.



DURING YOUR WORLD CUP

- Bring your old kit along to the Vitality Hockey Women's World Cup and give the gift of hockey. We are collecting your old bibs, cones, sticks and trainers - you name it, we'll take it. They will be shared across Ghana and England.



POST-EVENT LEGACY

After the Vitality Hockey Women's World Cup we are expecting more people than ever will want to pick up a stick and join their local club. Many clubs after London 2012 and Rio 2016 saw an increase in people coming back to the sport or parents of juniors wanting to pick up a stick.

HockeyFest 2018 will run in clubs across the country in August and September with the opportunity for clubs to grow and develop continuing into the 2018/19 season and beyond.



POST-EVENT LEGACY

> WHAT COULD YOUR CLUB DO NEXT?

- **We have a range of ideas on the types of sessions you can run to engage different types of audiences** and develop different parts of your club. Check out the Ways to Play section for lots more ideas, or simply host open sessions to provide people with a chance to come and give hockey a go.
- **Host a HockeyFest event and open your doors to your local community in a welcoming, friendly and social way.** Old Williamsons' HC held a HockeyFest to remember in 2017. They tied it in with their pitch launch and invited local food and drinks outlets along. They hosted a Back to Hockey session and free give it a go junior sessions and even provided a bouncy castle as an extra attraction for the kids!
- **Capitalise on the increased visibility of hockey** and be ready to pro-actively promote your club's opportunities locally – via your website, to local schools or through local PR.



- **Most importantly of all, make sure your club is as welcoming and friendly as possible for anyone coming along for the first time.** You could offer buddy schemes to help people get to know each other, make sure all of the information on your website is up to date, check if it is easy for people to know how to get in touch to find out more and think about how you can follow up after someone has come along.

To help attract new women's members London Royals HC amended the images on their website to be more appealing to women, they optimised their search engine results and ensured information about how to come along and have a go was easy to find for anyone new. This all helped to increase their women's section and create a new women's team.

> HOW CAN BEING PART OF YOUR WORLD CUP HELP?

- People will feel inspired after seeing the world's greatest players perform on the biggest stage in England! We will be sharing your club events across all of our communications channels and in media coverage to help drive people to their local hockey club.
- You will be able to promote your activities and events on our national platform, and this will help you reach new audiences.
- You can gain extra local and national promotion by being part of the HockeyFest campaign.



- You will have access to a range of personalised downloadable promotional resources which can help to promote the opportunities that your club wants to offer.





Title Partner Event

Vitality

FIH Global Leadership Partner



FIH Partners



Event Partners



FIH Suppliers



Event Suppliers



**Appendix N –
Passport Initiative – England Hockey**



PASSPORT



Vitality

HOCKEY
WOMEN'S WORLD CUP
LONDON 2018

21 July – 5 August 2018
Lee Valley Hockey & Tennis Centre

#HWC2018



WELCOME

Welcome to the Vitality Hockey Women's World Cup at Queen Elizabeth Olympic Park and Lee Valley Hockey and Tennis Centre.

With a big screen, live music, entertainment, plenty of places to eat and drink and a festival vibe, Fan Central is the go-to destination both ahead of and after seeing the action inside the Arena.

Inside this passport you will find directions, maps and hints to discovering some new places and activations along the Vitality Mile and Fan Central, so be sure to check it out!



FIND IT...

Use our maps to find the activities and fun.



GIVE IT A GO...

Why not try out some of our hockey-based activities.



BE A WINNER...

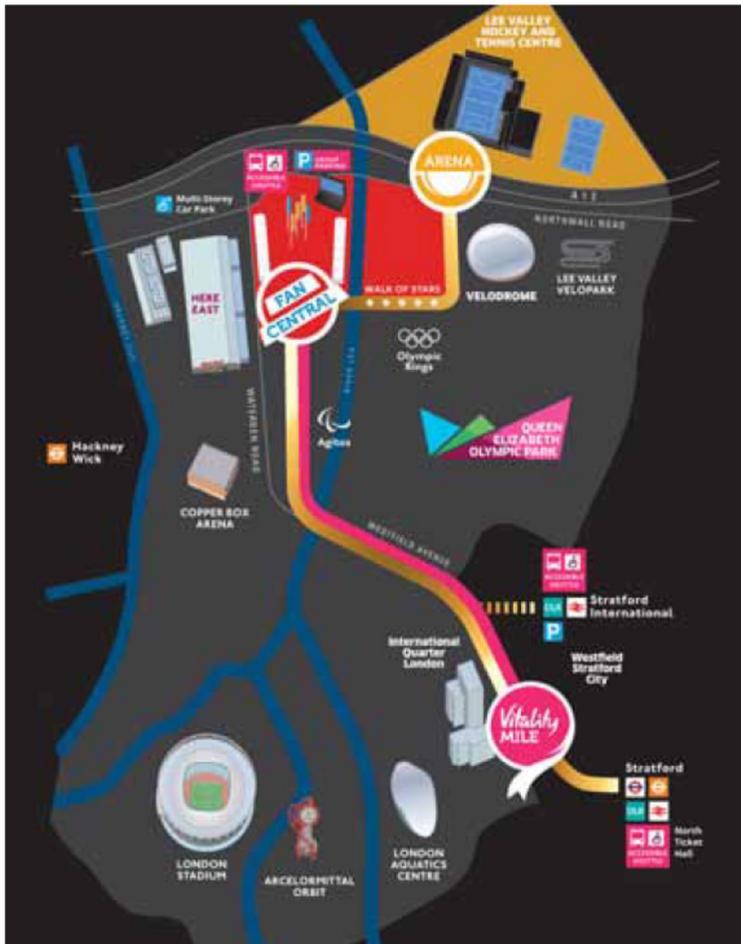
Collect stamps and answer the quiz... it may lead to some great prizes!



MEET THE STARS...

Collect the autographs of your favourite players and see if you can find them on our walk of the stars.

WALKING MAP



4

#HWC2018

FLAG FUN



As you walk along the Vitality Mile can you spot all the competing country's flags? Match the country to the right flag to get a stamp.

England



China

Netherlands



Korea

Argentina



South Africa

Spain



Belgium

Italy



Japan

Ireland



India

Australia



Germany

USA



New Zealand

5

DON'T BE SHY



As you take a walk along the Vitality Mile, look out for the Hockey Shy and Urban Dribble



HOCKEY DRIBBLE



HOCKEY SHY

WALK OF STARS



Walk with the stars along the Vitality Mile and don't miss the Olympic Rings selfie opportunity!

FAN CENTRAL



Along this part of the Vitality Mile, make sure you look out for:

Retail
Catering
Big Screen
Water Points
Toilets
Hockey Zone
Hockey Museum

BE A WINNER



There are a number of different activities along the Vitality Mile where you can try out your hockey skills.

There are six areas for you to explore, and for every area you complete an activation in, you will receive a player card (available from the info station in Fan Central). How many stamps will you collect, and can you collect all six player cards?

VITALITY MILE

There are two activations you can find along the Vitality Mile, as well as many sights across Queen Elizabeth Olympic Park.

FAN CENTRAL

Explore Fan Central, watch the Toshiba Big Screen and Stage and take a selfie with our super graphic!

HOCKEY ZONE

There is loads of opportunities to pick up a stick and play in the Hockey Zone, how many will you try?

HOCKEY MUSEUM

Find out all about the history of hockey and get a sneak peak into the minds of our top athletes with our Virtual Reality experience.

WALK OF STARS

Follow in the footsteps of the greats of our game, see which famous names you can spot.

HOCKEY QUIZ

Take the quiz and see if you are ready for the Vitality Women's World Cup.

COLLECT THOSE STAMPS...

<p>AREA 1 VITALITY MILE Flag Master</p>	<p>AREA 1 VITALITY MILE Merchant Gourmet Hockey Shy</p>	<p>AREA 1 VITALITY MILE Merchant Gourmet Urban Dribble</p>	<p>AREA 3 HOCKEY ZONE You're the Umpire</p>	<p>AREA 4 HOCKEY MUSEUM GK Jigsaw</p>	<p>AREA 4 HOCKEY MUSEUM Virtual Reality Experience</p>
<p>AREA 2 FAN CENTRAL Central Feature Selfie</p>	<p>AREA 2 FAN CENTRAL Toshiba TV's Photobooth Fun</p>	<p>AREA 3 HOCKEY ZONE Snookey</p>	<p>AREA 4 HOCKEY MUSEUM World Cup Photoshoot</p>	<p>AREA 4 HOCKEY MUSEUM My Predictions</p>	<p>AREA 5 WALK OF THE STARS Star Finder</p>
<p>AREA 3 HOCKEY ZONE Harrogate Speed Cage</p>	<p>AREA 3 HOCKEY ZONE Jaffa Juicer</p>	<p>AREA 3 HOCKEY ZONE Merchant Gourmet Pitch</p>	<p>AREA 5 WALK OF THE STARS Olympic Ring Selfie</p>	<p>AREA 6 HOCKEY QUIZ Quiz Master</p>	<p>Can you collect all the stamps for a bonus prize?</p>
<p>AREA 3 HOCKEY ZONE UK Sport Give a Gift</p>	<p>AREA 3 HOCKEY ZONE Loughborough in London Batak Board</p>	<p>AREA 3 HOCKEY ZONE Jaffa Inflatable Course</p>			

DON'T FORGET!

For every area in which you complete an activity, you will receive a player card. Present your stamp collection at the info station in Fan Central to receive yours!

STAR FINDER



Have you found the following players in our walk of stars? Can you name the country they represent?



COUNTRY

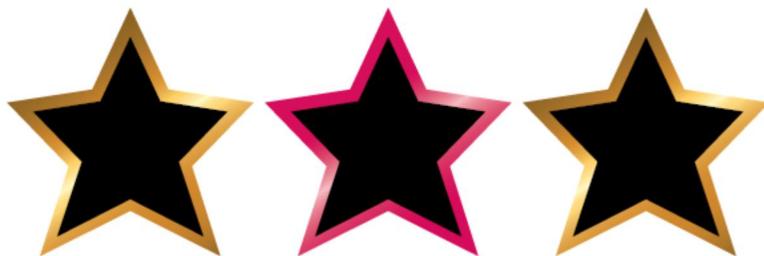
COUNTRY

COUNTRY

.....

.....

.....



COUNTRY

COUNTRY

COUNTRY

.....

.....

.....

Once you have located all the stars and which country they are from, be sure to collect your player card from the info point.

QUIZ MASTER



Can you answer these world cup related questions?

Once you have the answer write the corresponding letter in the box, and rearrange them to find the hidden country.

- Who are the current Women's World Champions ?
- The Women's World Cup was first held in 1974. There have only been four winners; Netherlands (7 times, Germany and Argentina 2 times). Who is the other winner?
- What colour is the Belgian alternative kit?
- Which team has the nickname the Lionesses?
- What is the surname of the Goalkeeper for the current Olympic Champions?

- | | | |
|---------|-------------|----------------------|
| 1. | 1. Letter 8 | <input type="text"/> |
| 2. | 2. Letter 7 | <input type="text"/> |
| 3. | 3. Letter 1 | <input type="text"/> |
| 4. | 4. Letter 6 | <input type="text"/> |
| 5. | 5. Letter 2 | <input type="text"/> |

Name the hidden country: _ _ _ _ _

Answers on page 15.

MEET THE STARS



Collect the autographs from our players who will be visiting Fan Central throughout the tournament.

Once you've found your favourite players, don't let them go without adding their autograph to this page. You can even take a selfie and tweet it using **#HWC18**

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#HWC2018

SCORES ON THE STICKS



Record your highest scores as you explore the many different activities to get involved in.

MERCHANT GOURMET HOCKEY SHY

How many coconuts did you knock down?

YOU'RE THE UMPIRE

Did you manage to get the decision right?

Clip 1: Clip 2: Clip 3:

HARROGATE SPEED CAGE

What was your highest speed achieved?

LOUGHBOROUGH IN LONDON BATAK BOARD

How many points did you score?

ANSWERS FROM PAGE 13:
1. Netherlands, 2. Australia, 3. Yellow, 4. Argentina, 5. Hinch
Hidden country = ITALY

15

**Appendix O –
Ethics Form**

RESEARCH ETHICS CHECKLIST (SHUREC1)

This form is designed to help staff and postgraduate research students to complete an ethical scrutiny of proposed research. The SHU [Research Ethics Policy](#) should be consulted before completing the form.

Answering the questions below will help you decide whether your proposed research requires ethical review by a Faculty Research Ethics Committee (FREC). In cases of uncertainty, members of the FREC can be approached for advice.

Please note: staff based in University central departments should submit to the University Ethics Committee (SHUREC) for review and advice.

The final responsibility for ensuring that ethical research practices are followed rests with the supervisor for student research and with the principal investigator for staff research projects.

Note that students and staff are responsible for making suitable arrangements for keeping data secure and, if relevant, for keeping the identity of participants anonymous. They are also responsible for following SHU guidelines about data encryption and research data management.

The form also enables the University and Faculty to keep a record confirming that research conducted has been subjected to ethical scrutiny.

- For postgraduate research student projects, the form should be completed by the student and counter-signed by the supervisor, and kept as a record showing that ethical scrutiny has occurred. Students should retain a copy for inclusion in their thesis, and staff should keep a copy in the student file.
- For staff research, the form should be completed and kept by the principal investigator.

Please note if it may be necessary to conduct a health and safety risk assessment for the proposed research. Further information can be obtained from the Faculty Safety Co-ordinator.

General Details

Name of principal investigator or postgraduate research student	Ricardo de Sousa
SHU email address	a7019469@my.shu.ac.uk
Name of supervisor (if applicable)	Prof. Simon Shibli, Dr. Larissa Davies and Dr. Girish Ramchandani
email address	sedld1@exchange.shu.ac.uk and
Title of proposed research	The inspiration effect of major sport(s) events on attenders' attitudes and behaviours.
Proposed start date	Sept 2015
Proposed end date	Sept 2018
Brief outline of research to include, rationale & aims (500-750 words).	<p>The research project will investigate the extent to which major sport(s) events inspire people to increase their sport and/or physical activity levels. The aim is to test the inspirational impact of major sports events, using attitudinal and behavioural change theories, on attenders sport and/or physical activity participation. The objectives are:</p> <ul style="list-style-type: none"> • To analyse and define the concept of 'the inspiration effect' of major sports events; • To analyse the 'inspiration effect' and its impact on both adults and young people; • To identify which conceptual models currently exist, and subsequently adopt or refine an existing model; • To apply the appropriate model to major sports events, and attempt the measurement of attitudinal and behavioural change in sport and/or physical activity; • To test the extent to which the different groups of the Transtheoretical Model are affected by the Demonstration and Festival Effects; • To test existing theories and to provide new insights into their use in a sport and leisure context. <p>Recent research suggests that there is a lack of evidence concerning the connection between the</p>

inspiration effect, major sports events and, sport and physical activity participation (Weed et al, 2012; Ramchandani & Coleman, 2012; Ramchandani et al, 2014; Ramchandani et al, 2015, Ramchandani et al, 2016). Although, it is currently accepted that major sports events inspire its active attenders (Market Penetration) to increase their sport and physical activity participation, evidence suggests the effect currently observed is more Market Penetration than Market Development (non-active attenders).

There is a number of behaviour and behaviour change theories and models that enable the further understanding of how and why people may or may not perform certain actions (Bandura, 1997; Cox, 2007; Morris et al, 2012; Prager, 2012). These include the: Theory of Reasoned Action, Theory of Planned Behaviour, Health Belief Model, Psychological Continuum Model, Transtheoretical Model, Hierarchy of Effects Theory Model, Exercise Adoption Model, Self-Efficacy Theory, Theory of Social Practice, Programme Theory and Diffusion of Innovation. They each have characteristics in common, which range from self-efficacy to personal control. Nevertheless, they are limited to identifying intention and the different stages of change, but not actual attitudinal and behavioural change.

Recent research conducted by the Sport Industry Research Centre (SIRC) at Sheffield Hallam University, suggests that whilst 'pre-contemplators' in each stage of the revised Transtheoretical Model did not plan to increase their sport participation levels in the twelve months following their attendance at an event, the reverse applied to the 'contemplators' who reported intent to increase their sport

	<p>participation levels in the same period. Another study conducted by the same research centre further suggests that major sport events have the potential to inspire spectators. However, some external factors such as transport and financial capacity may influence the result of the inspiration effect on the attenders (SIRC & UK Sport, 2012). Furthermore, there seems to be a lack of evidence with regards to the 'inspiration effect' on 'active' and 'non-active participants' (Ramchandani et al, 2016).</p> <p>The previously mentioned research stops short of measuring actual behaviour change using the revised TTM; the proposed research project will therefore attempt to measure this by the using an appropriate conceptual model.</p>
<p>Where data is collected from human participants, outline the nature of the data, details of anonymisation, storage and disposal procedures if these are required (300 -750 words).</p>	<p>The tools used to collect the required data will be surveys, self-completion questionnaires (during-event & post-event) and interviews. Participants will not be asked to write or state their names, ensuring that anonymisation is fulfilled.</p> <p>The data will be collected from participants who attend major sport events in the United Kingdom. Primary data collected in previous studies by SIRC commissioned by UK Sport, will also be used. SIRC have the required signed consent forms, meaning the participants have given consent to be called back for data collection in future research. Confidentiality will be honoured when analysing and discussing the data, meaning that the participants of the study will be informed that they will remain anonymous. Consequently, should there be the need to emphasize particular responses, generic numbers or letters will be used to represent the individual. The study will target adults who attend major sporting events. In turn this means that the only ethical issue at stake will</p>

	<p>be the informed consent from the participants attending these.</p> <p>The data will be stored in safe lockers at both the Chestnut Court and Collegiate Hall buildings at Sheffield Hallam University, thus maximising the safety of the evidence collected for analysis.</p> <p>Disposal of the data collected will be in line with Sheffield Hallam University and UK Sport's policy.</p>
Will the research be conducted with partners & subcontractors?	<p>Yes/No</p> <p>SIRC have a contract with UK Sport, thus all the data previously collected and still to be collected in the future will be in line with both Sheffield Hallam University and UK Sport ethics policies.</p> <p>(If YES, outline how you will ensure that their ethical policies are consistent with university policy.)</p>

1. Health Related Research involving the NHS or Social Care / Community Care or the Criminal Justice System or with research participants unable to provide informed consent

Question	Yes/No
<p>1. Does the research involve?</p> <ul style="list-style-type: none"> • Patients recruited because of their past or present use of the NHS or Social Care • Relatives/carers of patients recruited because of their past or present use of the NHS or Social Care • Access to data, organs or other bodily material of past or present NHS patients • Foetal material and IVF involving NHS patients • The recently dead in NHS premises • Prisoners or others within the criminal justice system recruited for health-related research* • Police, court officials, prisoners or others within the criminal justice system* • Participants who are unable to provide informed consent due to their incapacity even if the project is not health related 	No

2. Is this a research project as opposed to service evaluation or audit? <i>For NHS definitions please see the following website</i> http://www.nres.nhs.uk/applications/is-your-project-research/	No
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If you have answered **YES** to questions **1 & 2** then you **must** seek the appropriate external approvals from the NHS, Social Care or the National Offender Management Service (NOMS) under their independent Research Governance schemes. Further information is provided below.

NHS <https://www.myresearchproject.org.uk/Signin.aspx>

* Prison projects may also need National Offender Management Service (NOMS) Approval and Governor's Approval and may need Ministry of Justice approval. Further guidance at:
<http://www.hra.nhs.uk/research-community/applying-for-approvals/national-offender-management-service-noms/>

NB FRECs provide Independent Scientific Review for NHS or SC research and initial scrutiny for ethics applications as required for university sponsorship of the research. Applicants can use the NHS proforma and submit this initially to their FREC.

2. Research with Human Participants

Question	Yes/No
1. Does the research involve human participants? This includes surveys, questionnaires, observing behaviour etc. <i>Note If YES, then please answer questions 2 to 10 If NO, please go to Section 3</i>	Yes
2. Will any of the participants be vulnerable? <i>Note 'Vulnerable' people include children and young people, people with learning disabilities, people who may be limited by age or sickness or disability, etc. See definition</i>	No
3. Are drugs, placebos or other substances (e.g. food substances, vitamins) to be administered to the study participants or will the study involve invasive, intrusive or potentially harmful procedures of any kind?	No
4. Will tissue samples (including blood) be obtained from participants?	No
5. Is pain or more than mild discomfort likely to result from the study?	No
6. Will the study involve prolonged or repetitive testing?	No
7. Is there any reasonable and foreseeable risk of physical or emotional harm to any of the participants? <i>Note Harm may be caused by distressing or intrusive interview questions, uncomfortable procedures involving the participant, invasion of privacy, topics relating to highly personal information, topics relating to illegal activity, etc.</i>	No

8	Will anyone be taking part without giving their informed consent?	No
9	Is it covert research? <i>Note 'Covert research' refers to research that is conducted without the knowledge of participants.</i>	No
10	Will the research output allow identification of any individual who has not given their express consent to be identified?	No

If you answered **YES only** to question 1, you must complete the box below and submit the signed form to the FREC for registration and scrutiny.

Data Handling

Where data is collected from human participants, outline the nature of the data, details of anonymisation, storage and disposal procedures if these are required (300 -750 words).

Participants will not be asked to write or state their names, ensuring that anonymisation is fulfilled.

The data will be collected from participants who attend major sport(s) events in the United Kingdom. Primary data collected in previous studies by SIRC commissioned by UK Sport, will also be used. SIRC have the required signed consent forms, meaning the participants have given consent to be called back for data collection in future research. Confidentiality will be honoured when analysing and discussing the data, meaning that the participants of the study will be informed that they will remain anonymous. The study will target adults who attend major sporting events. In turn this means that the only ethical issue at stake will be the informed consent from the participants attending these.

The data collected in paper form will contain no names, ensuring that the participants profile is confidential, whilst all digital forms will be uploaded onto a secured university server (Q:Drive). If required, digital data will also be backed up using encrypted external hard drivers or pen drives. The data in paper form will be stored in safe lockers at both the Chestnut Court and Collegiate Hall buildings at Sheffield Hallam University. This will ensure best practice and high standards of information confidentiality and safekeeping.

Information about how the data is going to be stored will be given to the participants. All of the data stored at Sheffield Hallam University belonging to this research study, will follow the Ethics, Integrity and Practice Policy.

If you have answered **YES** to any of the other questions you are **required** to submit a SHUREC2A (or 2B) to the FREC. If you answered **YES** to question 8 and participants cannot provide informed consent due to their incapacity you must obtain the appropriate approvals from the NHS research governance system.

3. Research in Organisations

Question	Yes/No
1 Will the research involve working with/within an organisation (e.g. school, business, charity, museum, government department, international agency, etc.)?	Yes
2 If you answered YES to question 1, do you have granted access to conduct the research? If YES, students please show evidence to your supervisor. PI should retain safely.	Yes
3 If you answered NO to question 2, is it because: A. you have not yet asked B. you have asked and not yet received an answer C. you have asked and been refused access. Note You will only be able to start the research when you have been granted	

4. Research with Products and Artefacts

Question	Yes/No
1. Will the research involve working with copyrighted documents, films, broadcasts, photographs, artworks, designs, products, programmes, databases, networks, processes, existing	Yes

<p>2. If you answered YES to question 1, are the materials you intend to use in the public domain?</p> <p><i>Notes 'In the public domain' does not mean the same thing as 'publicly accessible'.</i></p> <p>– Information which is 'in the public domain' is no longer protected by copyright (i.e. copyright has either expired or been waived) and can be used without permission.</p> <p>– Information which is 'publicly accessible' (e.g. TV broadcasts, websites, artworks, newspapers) is available for anyone to consult/view. It is still protected by copyright even if there is no copyright notice. In UK law, copyright protection is automatic and does not require a copyright statement, although it is always good practice to provide one. It is necessary to check the terms and conditions of use to find out exactly how the material may be reused etc.</p> <p><i>If you answered YES to question 1, be aware that you may need to consider other ethics codes. For example, when conducting Internet research, consult the code of the Association of Internet Researchers: for educational</i></p>	No
<p>3. If you answered NO to question 2, do you have explicit permission to use these materials as data?</p> <p><i>If YES, please show evidence to your supervisor. PI should retain permission.</i></p>	Yes
<p>4. If you answered NO to question 3, is it because:</p> <p>A. you have not yet asked permission</p> <p>B. you have asked and not yet received and answer</p> <p>C. you have asked and been refused access.</p> <p><i>Note You will only be able to start the research when you have been granted permission to use the specified material.</i></p>	A/B/C

Adherence to SHU policy and procedures

Personal statement	
I can confirm that:	
– I have read the Sheffield Hallam University Research Ethics Policy and Procedures	
Student / Researcher/ Principal Investigator (as applicable)	
Name: Ricardo de Sousa	Date: 20/01/2016
Signature: Ricardo de Sousa	
Supervisor or other person giving ethical sign-off	
I can confirm that completion of this form has not identified the need for ethical approval by the FREC or an NHS, Social Care or other external REC. The research will not commence until any approvals required under Sections 3 & 4	

Name: Simon Shibli	Date: 20/01/2016
Signature:	
Additional Signature if required:	
Name:	Date:
Signature:	

Please ensure the following are included with this form if applicable, tick box to indicate:

	Yes	No	N/A
Research proposal if prepared previously	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Any recruitment materials (e.g. posters, letters, etc.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Participant information sheet	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Participant consent form	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Details of measures to be used (e.g. questionnaires, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outline interview schedule / focus group schedule	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Debriefing materials	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Health and Safety Project Safety Plan for Procedures	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Data Management Plan*	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

If you have not already done so, please send a copy of your Data management Plan to rdm@shu.ac.uk
It will be used to tailor support and make sure enough data storage will be available for your data.

Completed form to be sent to Relevant FREC. Contact details on the we

Appendix P –
Sport England Survey of Sports Facility Users

Centre Name

Time (Please use the 24 hour clock)

Day

Month

Year

:

/

SPORT ENGLAND SURVEY OF SPORTS FACILITY USERS

If you mark a box in error, please shade the whole box and then cross the correct box

Q1. What type of activity was your main activity at the facility today? PLEASE MARK ONE BOX ONLY e.g.

- | | |
|--|--|
| <input type="checkbox"/> Badminton | <input type="checkbox"/> Basketball or volleyball |
| <input type="checkbox"/> Keep fit / aerobics / etc. | <input type="checkbox"/> Another physical activity |
| <input type="checkbox"/> Fitness equipment / machines etc. | <input type="checkbox"/> Swimming, or aqua fit |
| <input type="checkbox"/> Martial arts | <input type="checkbox"/> A spectator |
| <input type="checkbox"/> Five-a-side football | <input type="checkbox"/> Another type of activity |
| <input type="checkbox"/> Gymnastics | <small>e.g. non-sport activity, meeting, exhibition, party</small> |

Q2. For how long did you participate in this activity today?

hour(s) min(s)

Q3. Where did you do your main activity? PLEASE MARK ONE BOX ONLY e.g.

- | | | |
|--|---|---|
| <input type="checkbox"/> Swimming pool | <input type="checkbox"/> Gym / fitness centre | <input type="checkbox"/> Outside facility |
| <input type="checkbox"/> Main hall | <input type="checkbox"/> Smaller hall | <input type="checkbox"/> Another part of the facility |

Q4. Which one of these best describes how you are taking part in your main activity today?

PLEASE MARK ONE BOX ONLY e.g.

- | | |
|--|--|
| <input type="checkbox"/> An organised class / session / course led by an instructor or coach | <input type="checkbox"/> As a member of a club or team |
| <input type="checkbox"/> As an individual user (not led by an instructor) | <input type="checkbox"/> Other |

Q5. Is this your first visit to this facility?

- Yes PLEASE GO TO Q7 No PLEASE GO TO Q6

Q6. How many times (including this visit) have you visited this facility...

in the last 7 days? in the last 4 weeks?

Q7. Have you used a leisure card or membership of a similar scheme to get reduced price admission to this facility today?

- Yes PLEASE GO TO Q8 No PLEASE GO TO Q9

Q8. On what basis are you eligible for this card or scheme? PLEASE MARK ONE BOX ONLY e.g.

- One of the following: junior, student, student nurse, jobseeker, senior citizen, disabled, single parent, unemployed, income support/family credit, widow / widower's pensioner, GP referral, elite performer
- One of the following: adult, family membership, local resident, corporate membership, work discount, council employee, other reasons

Rev_2018

Q9. Did you come here today?

- Straight from home Straight from work, school or college Other (i.e. from shopping)

**Q10. What was the main method of transport you used to get here today?
(The main method is that by which you travelled the longest distance)**

- Car or motorcycle Public transport Walked all the way Other, including cycle

**Q11. How long did this journey take today?
(Approximate time in minutes for the one-way, single journey)**

- 0-5 minutes 6-10 minutes 11-15 minutes 16-20 minutes
 21-30 minutes 31-45 minutes Over 45 minutes

Q12. How likely are you to recommend this centre to a colleague or friend?

- 0 1 2 3 4 5 6 7 8 9 10

Not at all Neutral Extremely
likely likely

Q13. Now tell us about some of the activities you may have done in the past 7 days.

i. In the past 7 days have you done a continuous walk lasting at least 10 minutes? Yes No **Go to Q13ii**

a. On how many days did you walk? days

b. How much time did you usually spend walking on each day that you walked? hr min

c. Was the effort you put in to walking usually enough to raise your breathing rate? Yes No

ii. In the past 7 days have you been on a cycle ride? Yes No **Go to Q13iii**

a. On how many days did you cycle? days

b. How much time did you usually spend cycling on each day that you cycled? hr min

c. Was the effort you put in to cycling usually enough to raise your breathing rate? Yes No

iii. In the past 7 days have you done a sport, fitness (e.g. gym) or dance activity? Yes No **Go to Q14**

a. On how many days did you cycle? days

b. How much time did you usually spend on this activity on each day that you did it? hr min

c. Was the effort you put in to this activity usually enough to raise your breathing rate? Yes No



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The next few questions (14-19) ask how you feel about various aspects of your life. Please be assured that your individual answers will remain confidential.

Q14. How is your health in general? Would you describe it as...?

- Very Good
 Good
 Fair
 Poor
 Very Poor

For questions 15-18 please use the following scale where '0' = 'not at all' to '10' = 'completely' to tell us how you feel about various aspects of your life.

0 1 2 3 4 5 6 7 8 9 10
 Not at all... Neutral Completely...

Q15. Overall, how satisfied are you with your life nowadays? PLEASE INSERT A NUMBER FROM 0-10 IN BOX

Q16. Overall, how happy did you feel yesterday?

Q17. Overall, how anxious did you feel yesterday?

Q18. Overall, to what extent do you feel that things in your life are worthwhile?

Q19. To what extent do you agree or disagree with the following statements...?

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I can achieve most of the goals I set myself	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If I find something difficult, I keep trying until I can do it	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Most people in my local area can be trusted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The last few questions are about you and will help us to analyse the data we have collected. Once again, rest assured that your individual answers will remain confidential.

Q22. Gender: Are you... ?

- Male Female

Q23. To help us monitor our equal opportunities policy, please indicate to which of these groups you consider that you belong. PLEASE MARK ONE BOX ONLY

- White (British, Irish or any other white background)
 Mixed (White and Black Caribbean, white and Black African, white and Asian)
 Asian or Asian British (Indian, Pakistani, Bangladeshi, any other Asian background)
 Black or Black British (Caribbean, African, any other Black background)
 Chinese or any other ethnic group

Q24. Do you have any physical or mental health conditions or illnesses that have lasted or are expected to last 12 months or more? Please include problems which are due to old age.

- Yes No PLEASE GO TO Q26

Q25. Do these physical or mental health conditions or illnesses have a substantial effect on your ability to do normal daily activities?

- Yes No

Q26. How old are you? PLEASE WRITE IN YEARS

--	--

Q27. Which of the following best describes your current situation? PLEASE MARK ONE BOX ONLY

- | | |
|---|---|
| <input type="checkbox"/> Working full-time (30+ hours a week) | <input type="checkbox"/> In full-time education (school) |
| <input type="checkbox"/> Working part time (less than 30 hours a week) | <input type="checkbox"/> Full-time student (college/university) |
| <input type="checkbox"/> On government work training programme | <input type="checkbox"/> Never worked |
| <input type="checkbox"/> Housewife/husband full-time in the home | <input type="checkbox"/> None of these |
| <input type="checkbox"/> Retired – company/personal pension | <input type="checkbox"/> Refuse to say |
| <input type="checkbox"/> Retired – state pension only | |
| <input type="checkbox"/> Temporarily unable to work (e.g. ill) | |
| <input type="checkbox"/> Permanently unable to work (due to illness/disability) | |
| <input type="checkbox"/> Unemployed – 6 months or more | |
| <input type="checkbox"/> Unemployed – less than 6 months | |

Q28. What is your postcode?

						-					
--	--	--	--	--	--	---	--	--	--	--	--

Interviewer administered?



THANK YOU FOR YOUR HELP
PLEASE HAND THE QUESTIONNAIRE BACK TO THE SURVEY
ADMINISTRATOR OR PLACE IT IN THE BOX PROVIDED

OFFICE USE:	INTERVIEWER:

**Appendix Q –
Example of UK Sport/SIRC Survey used in Major Sport
Events Research**

5. Has attending this event made it more likely that you will...

- a) Attend other events at Braehead Arena? Yes No Don't know
b) Buy tickets to other major curling events in Scotland? Yes No Don't know

6. In the 4 weeks prior to this event, on how many days did you take part in at least 30 minutes of sport or active recreation when the effort was usually enough to raise your breathing rate?

days

In addition to traditional team sports such as hockey, football or cricket please include activities such as swimming, cycling, running/jogging & going to the gym. Please do not include any walking, activities in PE lessons, gardening, DIY or housework, or any teaching, coaching or refereeing.

7. Do you take part in any of the following? Curling Other sports Neither (Go to Q9)

8. Are you a member of any of the following? Curling club Other sports club Neither

9. Prior to attending this event, were you planning over the next three months to...? (Cross one box only)

- Increase the frequency of your participation in either curling, other sports or active recreation
 Maintain the frequency of your participation in either curling, other sports or active recreation
 Reduce the frequency of your participation in either curling, other sports or active recreation
 Don't know / can't say

10. As a result of attending this event, do you feel **INSPIRED** to do sport or active recreation MORE FREQUENTLY than you would normally?

- Yes (Go to Q11) No (Go to Q13) Don't know / can't say (Go to Q13)

11. In which of the following respects do you feel **INSPIRED** to participate more frequently? (Cross any that apply)

- In Curling In another sport, or in sport & active recreation generally

12. Which of these factors have **INSPIRED** you to do more sport or active recreation? (Cross any that apply)

- The overall event atmosphere The event venue
 The skill/ability of the athletes The quality of the competition
 The performance of the athletes I supported Activities that took place around the main event
 Information I received at the event for doing more sport Other (Please specify) _____

13. During the last year have you spent any time volunteering in sport? Yes No Don't know

14. Has attending this event made you any more likely to volunteer in sport? Yes No Don't know

v_6.2

Please turn over...

56724



15. On a scale of '0' (not at all happy) to '10' (very happy), how happy did you/do you feel...

a) In the 2-3 days before you attended this event?

b) Today at this event?

16. Are you? Male Female

17. How old are you? years

18. How would you describe your ethnic origin?

White Mixed Asian / Asian British Black / Black British

Other (Please specify) _____

19. Do you have a long term illness or impairment which limits your daily activities? Yes No

20. How is your health in general nowadays? Very good Good Average Poor Very poor

21. Which of the following best describes where you live? (See the map on the back of clipboard)

Renfrewshire Rest of Scotland (inc. Glasgow) (Where?) _____

Rest of the UK Outside the UK (Which country?) _____

22. For research purposes only, UK residents please provide your FULL home postcode.

 -

If you live in Renfrewshire, please go to Q23. If you live in the rest of Scotland / rest of the UK, please go to Q24. If you live outside the UK, please go to Q27 overleaf.

23. To what extent do you agree with the following statements?

Strongly Agree Agree Disagree Strongly Disagree Don't Know

a) The event taking place in Renfrewshire/Scotland has made a positive difference to how I feel about where I live

b) I feel that this event has brought the local community closer

24. To what extent do you agree with the following statements?

Strongly Agree Agree Disagree Strongly Disagree Don't Know

a) I feel proud that the UK is hosting the European Curling Championships

b) I feel proud that Scotland is hosting the European Curling Championships

25. Are you aware that... a) the National Lottery has helped to fund this event?

Yes No

b) Paisley is bidding to become the UK City of Culture 2021?

Yes No

26a. Can we contact you again in the future to ask you some more questions about your sports participation? Yes No

26b. Would you like to receive UK Sport's newsletter including offers & competitions for upcoming events? Yes No

26c. Would you like to receive the Scottish Curling newsletter to find out about the sport, future events and where/how to try Curling? Yes No

If you have answered 'yes' to any part of question 26 (above), please provide your e-mail address below.

E-mail address _____

If you live in Renfrewshire (see map), thanks for your help; you've answered all of the questions that apply to you. Please return this form to a researcher.

If you live outside Renfrewshire (see map), please turn over and answer the remaining questions.

Please turn over...



27. Is this your first visit to Renfrewshire to attend a major sports event? Yes No

28. Is the European Curling Championships the main reason for you being in Renfrewshire today? Yes No
(See shaded area of map on the back of the clipboard)

29. Are you staying away from home at all during your visit? Yes *(Go to Q30)* No *(Go to Q34)*

30. If yes, where are you staying? Renfrewshire Glasgow Elsewhere in Scotland Elsewhere in the UK

31. How much (if anything) are you spending on accommodation per night? £ .00

32. Including yourself, how many people does this accommodation expenditure cover?

33. For how many nights are you staying in this accommodation on this trip?

34. Excluding your expenditure on accommodation, approximately (to the nearest £) how much do you expect to spend per day on the following items in Renfrewshire in connection with your trip to the European Curling?
(See shaded area of map - this excludes Glasgow which is outside Renfrewshire and any spending in the city will appear at Q36)

Food & drink £ .00

Event Merchandise / Programme £ .00

Shopping / Souvenirs £ .00

Entertainment / Attractions *(e.g. cinema)* £ .00

Local Travel £ .00

Other *(e.g. petrol/parking)* £ .00

35. Excluding accommodation, how much do you expect to spend in Renfrewshire in TOTAL during your entire trip? £ .00

36. Excluding accommodation, how much (if anything) have you spent or do you expect to spend in the rest of Scotland (i.e. outside Renfrewshire) during your entire trip?
Note, this might include paying for travel, petrol and food/drink prior to, or on the journey to Braehead Arena, or on food, shopping and other items if you are staying overnight in Scotland but outside Renfrewshire.

£ .00

37. Including yourself, how many people does this expenditure include?

38. Will you visit any other Renfrewshire tourist attractions on this trip? Yes No Don't know

39. To what extent do you agree with the following statements? *(Cross one box per statement)*

	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
a) My visit to the European Curling has enhanced my image of Renfrewshire as a visitor destination	<input type="checkbox"/>				
b) My visit to the European Curling means that I am <u>more likely</u> to visit Renfrewshire for a short-break or holiday in the next two years	<input type="checkbox"/>				
c) My visit to the European Curling means that I am <u>more likely</u> to recommend Renfrewshire as a place to visit to my friends and family	<input type="checkbox"/>				

**A researcher will be along to collect your completed form in a moment.
THANK YOU for your support and enjoy the rest of the event.**

 **uk sport**
LOTTERY FUNDED

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Office use only: 19th 20th 21st 22nd 23rd 24th 25th 26th



**Appendix R –
Stakeholder’s Interview**

Stakeholders (ie. local organising committee, local sport organisations, facility managers, athletes)

1. A major sporting event is an event that typically attracts a significant number of attenders, what is your overall focus when planning the hosting of this event?
2. Current research shows that the majority of the attenders of major sporting events are considered to be active sport and/or physical activity participants; do you have any implemented strategies that enable non-active attenders to learn more about opportunities in the sport(s) being showcased?
3. Are there any strategies you have implemented which enable active attenders to further positively change their attitude and behaviour towards sport and/or physical activity?
4. A major aspect of sport and physical activity participation is the potential health benefits, do you have any partnerships where the organisations come to this event and provide further information regarding the positives of participation?
5. Are there any other organisations within the local/national community that you have partnerships with, and do you promote their work and available opportunities to get involved with these?