Social return on investment (SROI) in sport: a model for measuring the value of participation in England

DAVIES, Larissa <http://orcid.org/0000-0003-0591-7507>, TAYLOR, Peter <http://orcid.org/0000-0003-3309-8983>, RAMCHANDANI, Girish <http://orcid.org/0000-0001-8650-9382> and CHRISTY, Elizabeth <http://orcid.org/0000-0003-2738-8976>

Social Return on Investment in Sport: A model for measuring the value of participation in England

Authors: Larissa E. Davies*, Peter Taylor, Girish Ramchandani and Elizabeth Christy (all authors Sheffield Hallam University)

To cite this article: Davies, L. E.; Taylor, P.; Ramchandani, G. & Christy E. (2019) Social return on investment (SROI) in sport: a model for measuring the value of participation in England, *International Journal of Sport Policy and Politics*, [online published 24 April 2019] DOI: 10.1080/19406940.2019.1596967

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Abstract

Recent and historical evidence suggests that sport creates societal benefits in terms of improved health, reduced crime, improved education and enhanced subjective well-being. However, there is limited empirical research on the monetary value of these non-market outcomes for society.

The original research presented in this paper aims to calculate the social impact of sport in England, using a Social Return on Investment (SROI) framework. It is the first time a SROI framework has been used to value the sports sector at the national level. According to our study, in 2013/14 the social value of sports participation in England was £44.8 billion and the total financial and non-financial inputs to sport were £23.5 billion, giving a SROI ratio of 1.91. This means that for every £1 invested in sport, £1.91 worth of social benefit was generated.

The research has several implications for policy makers. First, it shows it is possible to use a SROI framework to measure and value the wider benefits of sport to society, which provides a useful benchmarking tool for gathering evidence on the social impact of sport. Second, the research demonstrates that the return on investment in sport in England is positive and substantial, providing policy makers with evidence-based research upon which to better articulate the case for investment in sport. Third, it provides evidence that sport creates value to society across multiple social outcomes, potentially making it a cost-effective investment for addressing social issues across multiple public policy areas.

Keywords

Sports participation, Sports volunteering, Non-market benefits, Social impact, Social value, SROI.

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Introduction

Sport is widely perceived to have the potential to improve the lives of individuals and communities, and to generate positive social impacts within society. However, it has long been argued that there is insufficient evidence to support the case (Coalter, 2007). A systematic review of evidence on the social impact of culture and sport (Taylor *et al.,* 2015), published by a UK government department, contrasts this view. It argues that sport may have turned a corner from a position of being criticised as being under-researched, to one of noteworthy evidence in several areas including health, crime, education and subjective well-being. While the findings provide increasing evidence for policy makers in the UK and internationally, there is limited research on the monetary value of social outcomes generated from sport for society. Studies more commonly use non-monetary approaches to quantify the relative importance of social outcomes, for example rankings and Likert scales. In cases where research has monetised social outcomes, it is often context-specific for amenities or initiatives in particular geographical locations (e.g. Baker Tilly, 2013; ICF GHK, 2013). There has been little attempt to monetise the social value of sport at the population level. The research presented in this paper addresses this omission. It builds on the evidence presented in Taylor *et al.* (2015) to create a national model for estimating the social impact of sport.

Social Return on Investment (SROI) is a framework used for understanding, measuring and valuing net social impacts of an activity, organisation or intervention (Nicholls *et al.,* 2012). SROI is increasingly used across a range of policy areas, especially by public agencies and third sector organisations, to measure and value social impacts and to justify public investment (Fujiwara, 2014). It is also used by organisations to understand where activities create social value and as a strategic tool for planning and maximising social value in the future. This research aims to estimate the social impact of sport in England in 2013/14, using a SROI framework. It values the non-market (non-financial) impacts of sport, including health, crime, education, subjective well-being, and expresses the combined value of these outcomes in relation to the initial investment in sport. It is the first time that this approach has been used to measure the social value of the sports sector.

The purpose of the research is to put a monetary value on the wider social impact of sport, and in doing so identify and inform policy makers of the relative importance of different social outcomes to society. It seeks to apply an existing approach to social impact measurement, in a new sector-wide context, with the aim of achieving results which are as robust as possible, while being careful not to overclaim. A short summary of the findings was previously disseminated to stakeholders (Davies *et al.,* 2016). However, this paper explores and explains the work more fully.

The first part of the paper defines the context of the research. It outlines the policy context; definitions of sport and social impact; evidence linking sports participation with social outcomes, and approaches to social impact measurement. The paper then discusses the methodology and measurement of sport in England, which includes presentation of the key findings. The discussion section explores the implications of the findings for policy and the limitations of the research. The paper concludes by suggesting how research on valuing the social impact of sport could be improved.

Research context

Policy context

In the UK, there has been a clear shift in sport policy from investment in sport for sports sake, to the wider use of sport for societal good. From around 2000 onwards, sport policy has been reoriented to consider greater symbiotic links between sport and wider non-sport agendas such as health, education and social inclusion (King, 2009; Davies, 2010). Continued support for using sport to address wider policy agendas is clearly demonstrated in the most recent UK government strategy, *Sporting Future: a new strategy for an Active Nation* (HM Government, 2015), published in December 2015. This strategy clearly articulates an increased emphasis on the potential of sport for social good:

> '...in delivering this Strategy we will change sport funding so it is no longer merely about how many people take part, but rather how sport can have a meaningful and measurable impact on improving people's lives (p. 6).

Sporting Future is focused on the potential benefits that sport brings to society in relation to five outcomes: physical well-being, mental well-being, individual development, social and community development and economic development. These outcomes are at the heart of Sport England's strategy, *Towards an Active Nation* (Sport England, 2016). Sport England are the agency tasked with development of grassroots sport in England and public funding though this agency 2016-2021 will be directed to delivering these outcomes and success will be measured against improvement on each of them.

Internationally, there has also been a prominent shift of policy towards emphasising the wider impacts of sport on society. Hoye *et al.* (2010) note how the connection between sport and positive social and community benefits has gained increasing acceptance throughout the world, and is evident in the sports policies of various countries, including Australia, New Zealand and Canada. The Australian Government's policy *Play.Sport.Australia*, (Australian Sports Commission, 2015) argues the importance of sports participation for physical and mental health and outlines the wider case for sports participation:

> Sport also helps to build our confidence and self-esteem, and reduces our crime rates. It helps us to deliver stronger communities, bridges cultural boundaries and

> improves our international relations. Sport improves our academic lives and creates an environment where all are equal (p. 3).

In Canada the most recent policy document, *Canadian Sport Policy 201*2, recognises the positive impacts of sport on individuals, communities and societies. The policy argues that sport is potentially a powerful agent of social change and can contribute to various societal outcomes including: enhanced education and skill development; improved health and wellness; increased civic pride, engagement and cohesion. One of its five policy goals is for sport to be used as a tool for social and economic development (Government of Canada, 2012).

In the examples given, a common narrative across international sport policy is the notion that sport is uniquely placed to cut across a wide range of policy agendas, in a way that is possibly wider reaching than say active travel or physical activity in isolation. The spill-over effects of sport across multiple policy areas creates the potential for it to be a cost-effective intervention for addressing wider social policy targets. There is an increasing need to capture the value that sport plays beyond providing jobs and driving economic growth. Furthermore, in times of economic constraint and evidence-based decision making, there is a need now more than ever, to evaluate the case for public investment in sport.

Defining 'sport' and 'social impact'

Before the summary of evidence, it is important to define two key terms relevant to the research presented. These are sport and social impact.

Sport is a broad term that is widely defined. Many sport policy makers in Europe, including the UK Sports Councils of England, Northern Ireland, Wales and Scotland, use the Council of Europe's definition of sport:

> Sport means all forms of physical activity which, through casual or organised participation, aim at expressing or improving physical fitness and mental well-being, forming social relationships or obtaining results in competitions at all levels (Council of Europe, 2001).

The research presented in this paper adopts an inclusive definition of sport based on the activities included in the England Active People Survey (APS). The APS was the annual telephone survey (circa 165,000 adults) used by Sport England to measure the number of adults taking part in sport and active recreation in England. The last set of results for the APS was September 2016, when it was replaced by the Active Lives Survey. As the relevant survey at the time, the research presented in this paper includes all activities categorised as sport and formal exercise in APS, including dance, but excluding other forms of physical activity such as gardening and household activities which are clearly not related to sport or formal exercise. APS did not include recreational walking but includes more organised and intense/strenuous walking activities such as backpacking, hill trekking, cliff, gorge and hill

walking, rambling, power walking and sport walking. A full list of the activities included in the research can be found in the APS technical report (TNS, 2013).

The SROI methodology does not impose a definition of social impact on researchers but requires researchers to be clear about the definitions they are using. Social impact is a term used widely within academic literature and across government policy. It is a term which encompasses both social benefits and costs, and specifically those which are non-traded, i.e. not part of the market system. This research adopts an inclusive definition of social benefits and costs, embracing both social and private domains. First, it includes benefits and costs which affect someone other than the direct participant, e.g. through externalities and public goods. They include the following:

- changes in health care costs, derived from health changes of individuals;
- changes in criminal justice system costs, derived from changes in crime and antisocial behaviour and in pro-social behaviour and citizenship;
- the value of changes in human capital and productivity for society, derived from education changes for individuals;
- the value of changes in social capital, derived from bonding, bridging and linking capital changes; and changes in volunteering.

Second, it includes relevant benefits and costs which affect individual sport participants and volunteers, because they are part of society. This includes personal subjective well-being benefits and costs from participating and volunteering in sport. Subjective well-being is defined as life satisfaction or happiness pertaining to the individual (Bridges, 2006; Galloway *et al.,* 2006).

The definition of social impacts used in this research represents the monetary value of costs saved, and the benefits gained, to both private individuals and society. It is therefore more extensive than the common definition of social benefits and costs used in economics, which tends to focus on non-traded, external effects on anyone other than the producer or consumer involved in the activity.

Sport and social outcomes

Alongside the growing recognition and use of sport as a policy tool for achieving wider societal outcomes, there has been a growth in academic interest and evaluative research on the social impacts of sport. A systematic review of literature on this topic was published in 2015 by the UK Department for Digital Culture Media and Sport (DCMS) (Taylor *et al*., 2015). The review was used to inform the development of the SROI sport model.

Taylor *et al*. (2015) critically evaluated literature relating to five areas: health, crime, education, social capital and subjective well-being. The literature was assessed for quality using a hierarchy of evidence (Guyatt *et al.*, 1995; Sackett, 1996). The hierarchy recognises

that evidence varies in quality and attempts to grade evidence according to its reliability and effectiveness. Taylor *et al.* (2015) also considered the volume of evidence in each area, recognising that in some areas high quality evidence is simply not available, but a large number of lower qualities with similar findings can be used to draw inferences about impact. The review was based on 240 references, selected from a search strategy which yielded 16,807 hits.

The most robust evidence reviewed was in health (101 studies). Although some studies included in the report were associational, Taylor et al (2015) suggest a consensus, based on robust scientific evidence, that participation in sport and exercise generates population-wide primary (preventative) and secondary (therapeutic) physical and mental health benefits. This includes the prevention and treatment of chronic diseases including, but not limited to, cardiovascular disease, strokes, diabetes, obesity, some cancers and various neurological conditions. Evidence in health was synthesized from 46 high quality studies including meta-analyses and systematic reviews, randomised control trials (RCT), cohort studies and case controls. The research design of these studies enables the direction of causality between sports participation and health to be clearly established.

Taylor *et al.* (2015) also found a substantial volume of evidence relating to the relationship between sports participation and education (25 studies) and crime (40 studies). In education, this focused on the positive relationship between sports participation and education intermediate outcomes (such as behaviour and attendance) and final outcomes (such as attainment and progression). In crime, evidence specifically in relation to improved prosocial behaviour and reduced antisocial behaviour was found, particularly for young men, although some negative effects were reported relating to increased drunk and violent behaviour in some sports. In both of these areas, evidence was very diverse, relating to a wide range of contexts and groups. Although the quality of evidence was lower than for health, findings were drawn from studies that included an RCT, cohort and case control research designs, giving an indication of the direction of the relationship between these outcomes and sports participation.

Relative to the other areas of social impact, Taylor *et al.* (2015) found a much lower volume of evidence on sport and subjective well-being (8 studies), reflecting the relatively new emergence of this area. Studies mainly focused on positive associations between participation and volunteering in sport and measures of life satisfaction and happiness. Most were commonly investigated using large-scale data analysis. Ordinarily cross-sectional analysis does not enable the direction of relationships to be identified. However, regression analysis and the instrumental variable approach adopted in some studies in this area controlled for confounding and measurement errors, making causal inferences between sport and subjective well-being possible (e.g. Fujiwara et al, 2014a).

In comparison to the previous areas discussed, there was less convincing evidence relating to social capital (24 studies). Although the review identified a link between sport and bridging and bonding capital, the evidence was mainly of a lower quality, making it difficult to draw any conclusions about the relationship between participation, volunteering and social capital.

The issue of causality is a perennial concern in evaluating evidence on the social impact of sport (Coalter, 2007). The hierarchical approach to categorising and assessing the quality of research, which was adopted by Taylor *et al*. (2015), enables the best quality evidence in each area to be identified and synthesised, and judgements to be made about the nature of relationships between sport and social outcomes, while also taking account of the volume of evidence. However, the widespread use of non-experimental data in education, crime and subjective well-being means there will always be uncertainty about cause and effect relationships, so assumptions drawn from this evidence about the exact magnitude of the engagement in sport, should be conservative and viewed cautiously.

Social impact measurement and sport

Over the last decade, a wide range of organisations from the public, private and third sectors have become increasingly interested in the social value they create (Fujiwara, 2014). There are many approaches to social impact measurement, including traditional economic evaluation tools such as Cost Benefit Analysis (CBA), Cost-utility Analysis, Cost-effectiveness Analysis and social measurement tools such as Social Accounting and Auditing and the Global Reporting Initiative (Banke-Thomas *et al*., 2015). In the UK, CBA forms the core methodology of the HM Treasury Green Book guidance on policy appraisal and evaluation and is the predominant tool used by government to assess whether a project or policy should be undertaken (Fujiwara, 2014). Traditionally, CBA studies have focused on economic costs and benefits, with wider societal concerns viewed as secondary. However, in recent years, methods which seek to incorporate a fuller spectrum of costs and benefits borne by society as a whole, including non-market social and environmental impacts, have become increasingly popular (Vardakoulias, 2013). SROI is one such method that has gained increasing recognition in this context.

<u>SROI as an approach for measuring social impact</u>

SROI was originally developed by the Roberts Enterprise Development Fund in the United States in the mid-1990s (Banke-Thomas *et al.,* 2015; New Economics Foundations (NEF), 2004). In the UK, the SROI framework was further developed under a government funded programme on measuring social value, which started in 2008 and was conducted by a consortium of organisations including The SROI Network (now Social Value UK), NEF, Charities Evaluation Services, the National Council for Voluntary Organisations and New Philanthropy Capital (Arvidson *et al.,* 2013). An outcome of this project was A Guide to Social Return on Investment, which is widely used by researchers and practitioners. It was

first published in 2009 by the Office for the Third Sector in the Cabinet Office (Nicholls *et al.,* 2009) and subsequently revised in 2012 by The SROI Network (Nicholls *et al.,* 2012).

The SROI approach was developed from CBA, together with sustainability accounting and financial accounting (Social Value UK, 2014). Nicholls *et al.* (2012: 8) define it as 'a framework for measuring and accounting for [the] broad concept of value; it seeks to reduce inequality and environmental degradation and improve well-being by incorporating social, environmental and economic costs and benefits'. SROI offers an approach to social impact valuation which is guided by seven clear principles and a standardised framework. It is transparent, conservative and only includes material outcomes, namely those that if omitted, would affect the decisions of stakeholders. The SROI framework is built on a theory of change model and a commitment to valuing and monetising outcomes. It uses a wide range of methods for valuing, including preference and well-being valuation methods from CBA and financial metrics used in accounting (Fujiwara, 2014). SROI analysis expresses the value of the social outcomes created in relation to the cost of achieving them, as a single monetised SROI ratio.

As a measurement framework, SROI has the benefit that it can be applied to a wide range of organisations, interventions and public policy contexts. SROI principles can be applied at any level of rigour for the type of decision it is being used to inform. At one end of the spectrum SROI can use similarly high levels of rigour to CBA and inform policy, and at the other end it can use lower levels of rigour to inform operational decisions within an organisation. This enables a more widespread measurement of social value than is possible with other approaches, particularly in the third sector. Moreover, it is the only framework of those discussed above that has an external quality assurance process, carried out by Social Value UK, or Social Value International, which verifies the process of measurement at the higher levels of rigour.

A further merit of the SROI approach is that it provides a platform for meaningful engagement of multiple stakeholders, enabling the measurement of outcomes that matter to the people affected by an intervention, organisation or policy (Banke-Thomas *et al.,* 2015; Vardakoulias, 2013). Stakeholder involvement is a fundamental principle and is followed in all aspects of SROI, especially when trying to determine outcomes or changes which occur as a result of an activity (Arvidson *et al.,* 2010, 2013; Millar and Hall, 2013). While other social impact measurement approaches may involve stakeholders, it is not an implicit requirement, and as a result, unintended outcomes may be overlooked.

The SROI approach monetises value using a common metric, which enables multiple outcomes (and inputs) across different social impacts to be valued (e.g. health, crime, etc.). It also enables a singular monetary ratio to be calculated, which captures positive and negative outcomes, and illustrates a clear and easy to understand return on investment (Fujiwara, 2014). While this is clearly desirable from a policy perspective, the downside of

using a range of valuation methods is that it makes comparison across studies and different interventions difficult (Ryan and Lyne, 2008; Millar and Hall, 2013) and SROI guidance warns against such comparisons for these reasons (Arvidson *et al.,* 2010, 2013).

In a systematic review of SROI methodology to account for value for money of public health interventions, Banke-Thomas *et al.* (2015) comment on the difficulty of attaching monetary values to non-market goods and establishing the counterfactual (i.e. what would have happened without the intervention). Fujiwara (2014) also notes that economists have raised a number of concerns about SROI, including a lack of guidance on valuing long term impacts; the process, which may not reflect impacts on human well-being; and a lack of guidance on how the opinions and values of individuals should be aggregated. However, these issues are not unique to SROI and most challenges are also concerns for other valuation approaches such as CBA (for fuller discussion of the pros and cons of other social impact measurement approaches see Fujiwara, 2014). On balance, SROI offers a practical and transparent framework, which can be used to capture the social value of different activities for diverse audiences. Nevertheless, its credibility as a measurement tool for informing policy rests partly on the judgements exercised by researchers and organisations using the approach, which should be carefully scrutinised (Arvidson *et al.,* 2013).

SROI analysis in sport

SROI has primarily been adopted as a tool for social impact measurement by the third sector in the UK and US, and increasingly as a global measurement framework, across Europe and Asia (Millar and Hall, 2013; Fujiwara, 2014). In the UK, it is also increasingly being used in the private sector and by local authorities, although it is rarely used by central government departments (Fujiwara, 2014). Specifically, within sport SROI analysis has grown in popularity since 2010. Several charitable Leisure Trusts have commissioned SROI studies to evaluate the contribution of their facilities to the local authority area (e.g. Baker Tilly, 2010, 2012, 2013). SROI has also been used to measure the contribution of sports interventions, for example Sportivate (ICF GHK, 2013; Charlton, 2014) and the Cadbury's Spots vs Stripes programme (Smith *et al.,* 2012). There are also examples of it being used across the Sport for Development sector to measure the programmes and interventions (e.g. Hopkinson, 2016; Butler and Leathem, 2014). To date, the use of SROI in sport has focused on the measurement at the local level, with no studies attempting to measure the social impact of sport at the sector-wide level. This paper addresses the gap by presenting a SROI of sport at the population level in England.

Methodology

The seven SROI principles are: involve stakeholders; understand what changes; value things that matter; only include what is material; do not over-claim; be transparent; and verify the result (Nicholls *et al.*, 2012) The application of SROI requires judgement throughout the research process and these principles were used to guide key decisions and assumptions,

which were recorded and are detailed in this paper. The conduct of a SROI involves progression through six stages, which are outlined in Figure 1. These stages provide the structure for presenting the measurement process and findings of the England model in the next section.

Insert Figure 1

There are two types of SROI (evaluative and forecast). The research presented in this paper is evaluative, meaning it was conducted retrospectively and based on outcomes that have taken place. The research measures the social impact of sport in England from April 2013 to March 2014.

Assumptions

Nicholls *et al.* (2012: 9) note that 'like any research methodology, SROI requires judgement to be used throughout the analysis and there is no substitute for practitioner's judgement'. It is commonplace for assumptions to be made and important for these to be transparent to show why information has been included and excluded, and not to over-claim.

Much of the empirical evidence underpinning the SROI sport model is derived from literature. In some cases, the use of this information required assumptions to be made in order for it to be utilised in the modelling. The following discussion explains the logical reasoning behind four key assumptions relating to the literature.

- First, it was assumed that international evidence from advanced economies other than the UK was relevant for estimating change in outcomes for sports participants and volunteers in England. The practice of inferring findings from international evidence is not unusual. For example, international evidence is widely used to support evidence-based decision making in UK health policy (e.g. Public Health England, 2014). In the absence of evidence from the UK and specifically England, it was therefore considered a reasonable assumption for the SROI sport model.
- Second, it was assumed that evidence for sport, and for sport and physical activity combined was relevant for the model, but that evidence confined to non-sport related physical activity was not. The literature does not always disaggregate the effects by type of activity, with factors such as intensity and frequency considered more relevant. It was considered too conservative to ignore robust evidence if the activities reported were within scope of the Council of Europe (2001) definition, even if they were reported alongside general physical activity.
- Third, it was assumed that evidence relating to general volunteering was also relevant for sport volunteering. Sport volunteering makes up a considerable proportion of the overall volunteer workforce, and in the UK it is the largest sector (Fujiwara *et al.,* 2018). However, much evidence relating to volunteering is generalised. The use of non-sport specific volunteering evidence for evidencing

sport volunteering is widely accepted and illustrated in the most recent literature (Join in, 2014; Fujiwara *et al.*, 2018).

- Fourth, it was assumed that the Active People Survey measure of participation in sport at moderate intensity, for at least 30 minutes on at least four days out of the last four weeks (equivalent to 30 minutes on one or more day a week) was the threshold for social impacts to be realised. The UK physical activity guidelines suggest that over a week, adults should engage in moderate intensity activity for at least 150 minutes per week for health benefits to be realised (Department of Health, Physical Activity, Health Improvement and Protection, 2011). The Active People Survey measure of '1 x 30' was considered the most appropriate proxy equivalent to this threshold. In the year of study, the Active People Survey shows that 36.1% of the adult population in England participated in sport for 30 minutes on at least four days out of the last four weeks. In the same year, 56% participated in 150 minutes of moderate intensity physical activity (Sport England, 2018). The measure of sports participation used in this study was therefore more conservative than the minimum threshold recommended in the literature, and in line with the principles of SROI to not over-claim. The literature on the participation threshold for other social outcomes in the literature is varied; therefore, in the absence of any consensus, it was assumed that the same frequency measure was also required for other social impacts to be realised.

The inputs which generate sports participation (e.g. facility operating costs, consumer spend), from which social impacts are derived, are generally continuous rather than a one-off investment which yields returns over a period of future years. Similarly, some of the longer-term benefits gained from sports participation are likely to be fully realised at some point in the future rather than at the time of participation. Therefore, for a sector-wide study it is not possible to take a project lifetime approach as in conventional SROI studies, because of the continuous nature of investments and returns over time. By measuring the social impact of sport in a single year, we are effectively conflating this complex and dynamic process of investment, continued participation and continued benefit. This is in effect another simplifying assumption which enables a year's snapshot of the value of sport to be estimated. This assumption is justified not only by the infeasibility of a conventional project investment-return approach, but also by the relative stability of investments and participation in sport over time in England (Sport England, 2018).

The England SROI sport model

In keeping with the principle of transparency, this section details the measurement process of the SROI sport model, the key decisions made at each stage of the framework and the findings.

Stage 1: Stakeholders

In the context of this research, stakeholders are defined as people or organisations that influence or experience change because of sports participation. It was not possible to include all stakeholders, so based on the principles of SROI, only those that experienced material change were included.

Stakeholders were primarily identified through a desk review and in consultation with Sport England and the DCMS. Four groups of stakeholders were identified, as shown in Figure 2.

Insert Figure 2

The age criteria for sports participants' inclusion were determined by the review of evidence on the social impacts of sport (Taylor *et al.,* 2015). The review found evidence of social impact and sport in health and subjective well-being for adults aged 16+; educational impacts for children aged 10+ and crime impacts for males aged 10-24. The literature also identified impacts for sports volunteers aged 16+, so they were also included within the scope.

Stage 2: Mapping inputs, outputs and outcomes

The Impact Map is central to a SROI analysis. It is the story of how an intervention or policy makes a difference. The logic of the model is that stakeholders provide resources (inputs) to deliver sports activities (outputs), which result in outcomes for stakeholders.

The exercise of mapping the inputs, outputs and outcomes was mainly facilitated through a series of semi-structured interviews with stakeholders (n=8). These included interviews with government departments, voluntary organisations, and funding bodies for sport. During these interviews, information on investment in sport and expected outcomes was identified and an Impact Map or 'theory of change' model was developed. The outcomes for sports participants and volunteers were identified from scientific evidence rather than interviews, as there is already substantive evidence of the positive and negative social outcomes of sport for these groups (Taylor *et al.,* 2015). This method for identifying and understanding change was also adopted because stakeholders are not always able to identify all social outcomes resulting from their actions (e.g. reduced risk of disease). Data on outputs (sports participation and volunteer time) were derived from the Sport England Active People Survey, and the DCMS Taking Part Survey. We also consulted academic experts for knowledge and insight into key literature and evaluation evidence. Figure 3 gives an overview of the Impact Map for sport in England.

Insert Figure 3

Within SROI, Arvidson *et al.* (2013) suggest that volunteering can be seen as both an input (providing resources that result in an impact) and an output (providing impacts to

volunteers in terms of welfare and experiences). In the SROI sport model, volunteering is regarded as a non-financial input to sport, in the form of volunteer time. It is included as an input as it is necessary to facilitate sports participation. It is also considered an output (activity) that generates outcomes for volunteers themselves (subjective well-being) and for the organisations which utilise volunteers (human resource benefits).

Stage 3: Measuring and valuing outcomes

For stage 3, measuring and valuing the outcomes identified by stakeholders, a review of literature was carried out to identify the nature of the relationship between sport and the social outcomes. This review included sources from Taylor *et al*. (2015) published between 1996-2012, and additional sources obtained from a further targeted review of literature published between 2013-14, utilising EBSCO Host, MEDLINE; ERIC; SportDiscus; Criminal Justice Abstracts and Google Scholar.

Eleven social outcomes were identified, which were empirically linked with participation and volunteering in sport. There were six health-related outcomes; two education-related outcomes; and three others related to subjective well-being, crime and the human resource benefits to sports organisations utilising volunteers.

Outcome change

Table 1 summarises the change in outcomes resulting from participation and volunteering in sport and the key evidence used to identify this change. For some outcomes the relationships were derived from multiple studies or high-quality review papers; in others, individual study papers reporting on relevant outcomes were used.

Insert Table 1

Outcome changes in five health conditions were measured by estimating the reduced risk (and number of cases) resulting from participation in sport. Evidence was drawn from 17 high quality studies, which were either meta-analyses, systematic reviews or large cohort studies. This provided strong evidence of causal relationships between sport and health outcomes. For outcomes where a range of values were reported across different studies of similar quality, an average effect was estimated. In all cases, the estimates were cautious and within the limits or below those recognised by the Chief Medical Officers in England, Scotland, Wales and Northern Ireland (Department of Health, Physical Activity, Health Improvement and Protection, 2011).

For crime reduction and educational attainment, despite there being some higher quality studies, it was not possible to estimate an average effect as the context, type of intervention, study population and research design of these studies were so varied. Given the heterogenous nature of the evidence and prevalence of cross-sectional evidence, it

would have been the simplest procedure to exclude these outcomes. However, this was considered too cautious as there was a large volume of studies reporting similar beneficial effects. Out of the 23 high quality papers on the relationship between sports participation and crime, 16 found positive associations; and out of 25 high quality papers on the relationship between sports participation and educational attainment, 24 found positive associations. For both crime and education outcomes a cautious but generalised assumption was made of a 1% improvement in crime and education attainment resulting from sports participation. This is an acknowledgement that sport impacts on these outcomes positively, but that the precise nature of the relationship or change is unknown. The assumption should therefore be viewed cautiously, particularly given many studies in this area are cross-sectional, making it difficult to confirm causality.

For self-reported good health, subjective well-being, enhanced human capital and the human resource benefits to organisations utilising sport volunteers, individual studies were used to identify the relationships outlined in Table 1. In the case of the first two outcomes, the research design was cross-sectional. However, as is common practice in health economics and policy evaluation literature, multivariate regression analysis was used to control for a range of other determinants such as age, income, gender and employment status, to get a better sense of cause and effect (i.e. the independent effect of sport on social outcomes). While this is the optimal statistical strategy for this kind of non-experimental data, it is not possible to make definitive statements about causality, nor about the mediating effect of one outcome on another. Estimates should again be viewed cautiously and used as upper bound estimates (Fujiwara *et al*., 2014a, 2015).

Valuation

The 11 social outcomes were valued using various methods and a range of secondary sources were used including data from Social Value UK, Cancer Research, British Heart Foundation, Dementia UK, Diabetes UK, the Office for National Statistics, Ministry of Justice, and the Department for Education.

Table 2 summarises the value of the health outcomes. The first five health outcomes were valued by calculating the number of sports participants with reduced risk of developing the health condition and multiplying it by the average annual cost per person diagnosed (British Heart Foundation National Centre (BHFNC), 2013; Luengo-Fernandez, *et al*., 2013; Cancer Research, 2015; Hex, *et al*., 2012; Prince, *et al*., 2014). The sixth health outcome (good health), was valued by multiplying the total number of sports participants by the annual NHS cost saving per person associated with improvements in self-reported good health (Fujiwara *et al*., 2014b). As a conservative measure the calculation of the 'good general health' outcome was adjusted so that it explicitly excluded the number of individuals that have been accounted for in the valuation of the five specific health conditions previously.

The overall annual value of health outcomes was £5.18 billion. However, as shown, there was considerable variation in value across the outcomes measured. The largest values were generated from reduced risk of dementia (£2.20 billion) and higher levels of self-reported good health (£1.52 billion). In the case of dementia, the higher value was generated because of a combination of the relatively high cost saving per person and the number of potential cases avoided, and for improved good health, because of the significant numbers affected (15.21 million sports participants).

Insert Table 2

Table 3 summarises the value of the other social outcomes. The crime prevention outcomes were valued by estimating the number of criminal incidents prevented among males in the 10-24 cohort taking part in sport (persons), multiplied by the average cost per incident of crime (value per person) (Brand and Price, 2000; Dubourg *et al*., 2005). The total value of crime prevented was £40.67 million.

For education, two outcomes were valued; educational attainment and enhanced human capital. For educational attainment, achievement at GCSE (level 2) and A-level / equivalent (level 3) was used as a proxy for educational achievement of pupils aged 11-18. This was valued by estimating the number of additional sports participants aged 16-19 with formal qualifications, GCSEs and A levels (persons), multiplied by an annual average of lifetime productivity returns (value per person) (Hayward *et al*., 2014). This method of valuing qualifications is used by the UK Government Department for Education. The second education-related outcome represents the value of an individual's enhanced skills, gained through participating in sport at university. It was valued by estimating the number of final year students in Higher Education institutions doing sport (persons), multiplied by the average additional starting salary for graduates who are sports participants (value per person) (Griffiths *et al*., 2017). The value of increased educational attainment was £4.79 million and the value of enhanced human capital was £1.30 billion. The total value of education was £1.31 billion.

The value of subjective well-being for participants and volunteers was derived from research using the well-being valuation approach (Fujiwara *et al.,* 2014a; Join In, 2014). For the valuation of subjective well-being the number of people taking part in sport or volunteering (persons) was multiplied by the monetary value placed on improved well-being (value per person). The value of subjective well-being for participants and volunteers was £17.56 billion and £12.86 billion respectively.

The human resource benefits gained by sports organisation that utilise volunteer labour were valued in the same way as the input of volunteer time. As is commonly practiced, it was simplistically valued by multiplying the annual volunteer hours worked by average hourly earnings (Sport England, 2003). This financial proxy was considered to represent the minimum value of volunteers to sports organisations, who would otherwise have to employ

paid labour to undertake the tasks necessary to deliver sports activities. The value of this outcome was £7.80 billion.

Insert Table 3

Stage 4: Establishing impact

Ordinarily in a SROI analysis, the valuation of outcomes would be adjusted for duration, drop-off, deadweight, displacement and attribution. This is to estimate how much of the outcome would have occurred anyway and the proportion isolated by the activity. Nevertheless, in this research these adjustments were considered not necessary.

As the scope of the England model is for one year only, there is no need to adjust for the duration (how long an outcome lasts) and drop off (the deterioration of an outcome over time). The estimation of outputs and outcomes is designed to differentiate between those relating to sport participants and those to non-participants, the difference being the effect of sport and exercise. Therefore, the deadweight position (the amount of outcome that would have happened even if sport and exercise had not taken place) is already implicit in the non-participants default case. Furthermore, because many of the empirical studies, on which the estimates of outputs and outcomes are based, are of a multivariate nature, they have already incorporated consideration of other confounding factors to these outputs and outcomes. Therefore, separate analyses of attribution to sport are not required.

Regarding displacement (how much of the outcome has displaced other outcomes), because the estimation covers the whole of sport, consideration of how one sporting activity may displace another is not relevant. Of possible relevance might be the extent to which physical activity or other leisure (or non-leisure) activities with similar benefits may have been displaced by sports participation. However, there is little evidence on the substitution effects between physical activity and sport. Moreover, some studies of sport and other leisure activities such as the arts have shown that these activities are complements, rather than substitutes (Shibli *et al.,* 2014). Given the uncertainty of the substitution effects, no adjustment has been made for displacement in this research, although this should be reconsidered if new evidence emerges in the future.

Stage 5: Calculating the SROI ratio

The final stage of a SROI analysis is calculating the SROI value. The SROI ratio for sport in England was estimated by adding the total value of the outcomes and dividing it by the value of inputs. Table 4 summarises the main constituent parts of the SROI calculation. Total inputs are just under £23.46 billion. The total value of outcomes is just under £44.75 billion. This gives a SROI of 1.91 - i.e. for every £1 invested in sport in 2013/14, £1.91 worth of social impact was generated.

Insert Table 4

A sensitivity analysis was undertaken, which involved testing the parameters of the outcome measures and financial proxies to establish the impact on the overall model. Using the most generous and conservative assumptions and values for health, crime and education from the literature and secondary data, the overall SROI ranged between 1.84 and 1.98, compared to the headline finding of 1.91. This indicates that the SROI is not particularly sensitive to fluctuations in these outcome measures. However, adopting the higher value for subjective well-being from the literature (Marsh *et al*., 2010) resulted in the SROI value increasing to 19. This analysis confirmed our decision to use the more conservative value for this outcome.

Discussion

The findings presented in this paper have several implications for policy, which are now discussed.

First and foremost, this research shows that it is possible to use a SROI framework to measure and value the wider benefits of sport to society at the population level. For policy makers, the model provides a useful benchmarking tool for gathering evidence on the social impact of sport, which could be used to inform policy decisions relating to investment in sport for wider societal good in the future. Although the model is in the early stages of development, it is sufficiently developed for stakeholders to identify the importance of the social outcomes measured.

Second, the paper demonstrates that the return on investment of sport in England is both positive and substantial. The England SROI sport model found that the social value of sport was £44.8 billion. The most recent estimates for the economic importance of sport in England found that sport-related Gross Value Added (GVA) was £20.3 billion in 2010 (Sport England, 2013). Notwithstanding inflationary rises between 2010 and 2013/14, these findings suggest that the monetary value of sport to society holistically is considerably greater than suggested by estimates derived using conventional economic indicators alone. For policy makers, the revelation that the value of sport is potentially three times greater than previously suggested provides a stronger justification for current investment, and better evidence to articulate the case for sport in the future, not only in England but also in other countries.

Third, the research reveals that sport creates value to society across multiple social outcomes, potentially making it a cost-effective investment for addressing social policy issues across several areas. Nevertheless, it also demonstrates that the value created by sport is not evenly distributed across all the outcome areas measured. The findings showed that the largest social value was derived from subjective well-being at £30.43 billion (68% of the total). The second largest contribution was derived from the human resource benefits

gained by sports organisations utilising volunteers at £7.80 billion (17.4%). The England SROI sport model shows that although most closely related in policy terms, the value of health at £5.18 billion (11.6%), was relatively modest in comparison. The social value of the education-related outcomes and crime were both considerably lower than all the aforementioned categories. In part, this is because of the very conservative assumptions made about the impact of sport and exercise on these outcomes, stemming from varied evidence in these areas. Furthermore, for crime, the lower value represents the fact that the only evidence linking sport to crime outcomes relates to young males (10-24), who represent a relatively small proportion of all sports participants.

From a public policy perspective, it may be desirable in some circumstances to separate out return on investment in sport to the public sector vis-à-vis the individual (for example, in relation to policy discussion on public subsidies to sport). Assuming the value of outcomes can be broken down into societal and individual elements, and that government funding of sport is aimed at primarily generating health, crime and education benefits, it is theoretically possible to infer a return on investment to the public sector. However, this scenario building is based on the implicit assumption that individual (private) and societal (public) investment, and the subsequent impacts generated for individuals and society, exist independently. This assumption is not supported by any literature or empirical research undertaken as part of this analysis, therefore it is considered unwise to present the findings in this way.

Limitations of the research

While the SROI for sport in England represents the most comprehensive estimate of the wider benefits of sport to date, it is at best a partial estimate and likely to underestimate the actual value of sport. From the outset this research aimed to be as inclusive of as many social outcomes as possible. However, to maintain a high level of academic rigour, it was ultimately limited to those where a clear link was strongly and empirically evidenced. The research has knowingly excluded several health impacts both positive (e.g. reduced depression) and negative (e.g. sports injuries) through either a lack of empirical evidence on the effect of sport and / or the value of such effects. It also excluded measures of social capital. The result is that the scope of the research is more limited than would ideally be the case.

A further limitation of the study is the quality of evidence used to measure and value the crime and education outcomes, which makes causality difficult to fully establish. This limits the confidence with which policy recommendations can be put forward in these areas, and consequently the potential for such research to be used as a tool for advocating investment in these areas. It also necessitates conservative assumptions in these areas which further contribute to the study underestimating the value of sport. Although the evidence on subjective well-being is arguably more rigorous in attempting to control for possible

confounding factors, the use of non-experimental methods means it is not possible to rule out reverse causality.

As a first attempt at using a SROI framework to measure the value of sport, the model does not differentiate between different types of sports participants, in terms of frequency, duration or intensity of participation. Participants are viewed as binary in that they are either included if they meet the threshold of participating once per week of at least moderate intensity for a duration of at least 30 minutes, or otherwise excluded and no value is attributed to them. However, some evidence suggests that the greatest reduction in chronic disease will be achieved by targeting those adults that are significantly inactive to do something (Department of Health, Physical Activity, Health Improvement and Protection, 2011). In this research, the social impact of infrequent participants is not valued. Also, the England SROI sport model does not differentiate between those participants who just achieve the 1 x 30-minute threshold of activity, and those who participate more frequently (e.g. 3 x 30 minutes per week). All sports participants are given the same value, so for the purposes of modelling, are largely viewed as homogenous. This is obviously a limitation, albeit explained by the lack of empirical evidence differentiating duration, intensity and frequency of participation to the various social outcomes.

Another limitation of the model is the analysis of volunteering. Volunteering is both an input to, and an outcome derived from sport. Volunteering outcomes are measured in terms of the individual subjective wellbeing benefits for volunteers themselves, and the human resource benefits for organisations which utilise volunteers. The latter outcome is valued using volunteer time and average hourly earnings, which is the same method used for volunteering inputs, hence the common values cancel each other out. The method used for estimating the time value of volunteers as an input to sport is arguably standard practice, albeit simplistic. However, this is not the case for the human resources benefits for organisations that utilise volunteers, where there is no standard practice. The valuation of volunteering in the model is thus a further limitation of the research, although not one which is unique to sport, as Arvidson et al (2013: 9) notes, 'The question of how to value volunteering in SROI is debated and is problematic conceptually and practically (Leete, 2006; Rochester et al. 2010)'.

Finally, the scope of the England SROI sport model is just a 'snapshot' of one year. It is a static model which does not take account of the fact that participation and volunteering in sport and exercise in a given year creates lagged benefits in future years. Likewise, for benefits to accrue in a given year, continuous investment is required in previous years. Therefore, the SROI of 1.91 reported in this research may not reflect the longer-term return on investment in sport from the inputs in 2013/14.

Conclusion: Future research

This research represents a first attempt to use a SROI analysis to value the sports industry and it is one of only a few studies that attempt to apply the method at a sector wide level more generally. As such, the application of SROI is in its infancy and although it provides a useful tool for measuring the wider benefits of sport to society, further research is required to improve its measurement accuracy and maximise its usefulness to policy makers in the future.

Most importantly, the England SROI sport model could be enhanced by improving the quality of evidence that demonstrates the relationship between sport and social outcomes, and then by subsequently valuing these. Priority areas include:

- Measurement and valuation of the health-related outcomes excluded from this research through a lack of evidence, including mental health (e.g. depression and anxiety), sports injuries and musculoskeletal health for older adults
- Measurement and valuation of social capital outcomes, including measures of social networks, reciprocity and trust;
- Measurement and valuation of social outcomes for children, including health and subjective well-being for all children and educational attainment for children aged 5 years and above;
- Measurement and valuation of volunteering, in particular, the outcomes for organisations which benefit from voluntary labour, but also the volunteering inputs to facilitate participation, which includes but may not be limited to volunteer time;
- More sophisticated use of health economics and modelling to more accurately measure and value the impact of sport on health outcomes. This should include consideration of how to develop the SROI analysis from the one-year snapshot approach adopted in this project, to taking account of the time dimension between investment and participation in sport and subsequent health benefits and costs in the future;
- Investigation of the differential social impacts of sports participation in terms of frequency, duration and intensity;
- Testing and verifying the assumptions used to estimate the relationship between sport and certain outcomes included in the study, particularly the assumed 1% improvements in crime and education benefits arising from sports participation;
- Measurement and valuation of specific sport and exercise programmes implemented for health and crime rehabilitation/ prevention. The latter are an important part of sport for development sector, but the data are currently not robust enough to include in a SROI analysis;
- Further investigation of subjective well-being outcomes, possibly using experimental methods. Investigation of this outcome should also consider the influence of team and individual sports, which have been shown to have differential effects

(Downward and Rascuite, 2011; Fujiwara et al. 2014a). Further research on subjective well is particularly important given it contributes most to the overall value of sport in England.

Social impact measurement provides an opportunity for policy makers and other stakeholders to better articulate the case for investment in sport, and approaches such as SROI provide stakeholders in sport with a potentially more holistic and transparent framework to demonstrate evidence-based social value to society. The research presented in this paper is the start of a journey, providing a platform for improvement in evidence on the social impacts of sport. The research agenda outlined represents some suggestions for how research on the social impact of sport could be improved, which in turn could be used to improve estimates for England and enhance the usefulness of the SROI sport model to international policy makers in the future.

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Table 1: The relationship between sport and social outcomes

Outcomes		Change in outcome	Key references
Health	Coronary Heart Disease (CHD) and Stroke	Participation in sport and exercise at moderate intensity in adults reduces risk of CHD and Stroke in active men and women by an average of **30%** (range 11%-52%)	Grau *et al.,* 2009; Held *et al.,* 2012; Houston *et al.,* 2002; Sattelmair *et al*., 2011; Shiroma and Lee, 2010.
	Cancer (Breast)	Participation in sport and exercise at moderate intensity in adults reduces risk of breast cancer in active women by **20%** (range 10%-30%)	Eliassen *et al.,* 2011; Leitzmann *et al.,* 2008; Lynch *et al.,* 2011; Monninkhof, 2007; Peters *et al.,* 2009; Warburton *et al.,* 2006.
	Cancer (Colon)	Participation in sport and exercise at moderate intensity in adults reduces risk of developing colon cancer by **24%**	Warburton *et al.,* 2006; Wolin *et al.,* 2009.
	Type 2 diabetes	Participation in sport and exercise at moderate intensity in adults reduces risk of Type 2 diabetes by **10%**	Warburton *et al.,* 2006; Warburton *et al.,* 2007.
	Dementia	Participation in sport and exercise at moderate intensity in adults reduces risk of developing dementia by **30%** (range 21%-52%)	Bowen, 2012; Buchman *et al.,*2012; Larson *et al,* 2006; Xu *et al.,* 2010.
	Good health	Sports participants are **14.1%** more likely to (self) report good health than non-participants	Fujiwara *et al.,* 2014a.
Crime	Criminal incidences	Sports participation reduces criminal incidents for males aged 10-24 years by **1%**	Veliz & Shakib, 2012; Wilson & Lipsey, 2000.
Education	Educational attainment	Sports participation increases educational attainments (aged 11-18) by **1%**	Centers for Disease Control and Prevention, 2010; Newman *et al*., 2010.
	Human capital	Participation in sport at university develop enhanced knowledge skills and abilities (human capital).	Griffiths, *et al.,* 2017.
Subjective well-being	Life satisfaction	Sports participants have higher life satisfaction than non-participants	Fujiwara *et al,* 2014a.
		Sports volunteers have higher life satisfaction than non-volunteers	Join in, 2014; Trotter *et al.,* 2014.
Human resources	Non-market benefits	Volunteers create non-market benefits to the organisations they give their time to.	Sport England, 2003.

Table 2: Health valuation summary 2013/14

Outcomes	Persons	Value per person (£)	Total (£m)
CHD & Stroke	279,089	£3,635	£1,014.48
Breast Cancer	2,760	£47,908	£132.23
Colon Cancer	1,669	£47,908	£79.94
Type 2 diabetes	67,464	£3,545	£239.16
Dementia	66,879	£32,887	£2,199.43
Good health	15,211,195	£100	£1,516.06
			£5,181.31

Table 3: Other outcomes valuation summary 2013/14

Outcomes	Persons	Value per person/ case (£)	Total (£m)
Crime	25,584	£1,590	40.67
Educational			
Attainment	3,919	£1,221	4.79
Human Capital enhancement	224,002	£5,824	1,304.59
Subjective well-being			
Participants	15,585,399	£1,127	17,564.74
Volunteers	5,457,072	£2,357	12,862.32
Human resources	5,457,072	£1,429	7,795.55

Table 4: Summary SROI calculation 2013/14

		Value (£m)
Inputs	Sport England	403.47
	UK Sport	72.10
	Local authorities	1,040.58
	Secondary schools	488.20
	HE Institutions	46.80
	DCMS	7.53
	Youth Sports Trust	16.60
	Sports participants	13,589.11
	Volunteers	7,795.55
	Total	**23,459.94**
Outcomes	Value of health-related outcomes	5,181.31
	Value of crime	40.67
	Value of education-related outcomes	1,309.38
	Value of subjective well-being	30,427.06
	Value of human resources	7,795.55
	Total	**44,753.97**
SROI		**1.91**

Figure 1: Stages of a SROI

Figure 2: Stakeholders

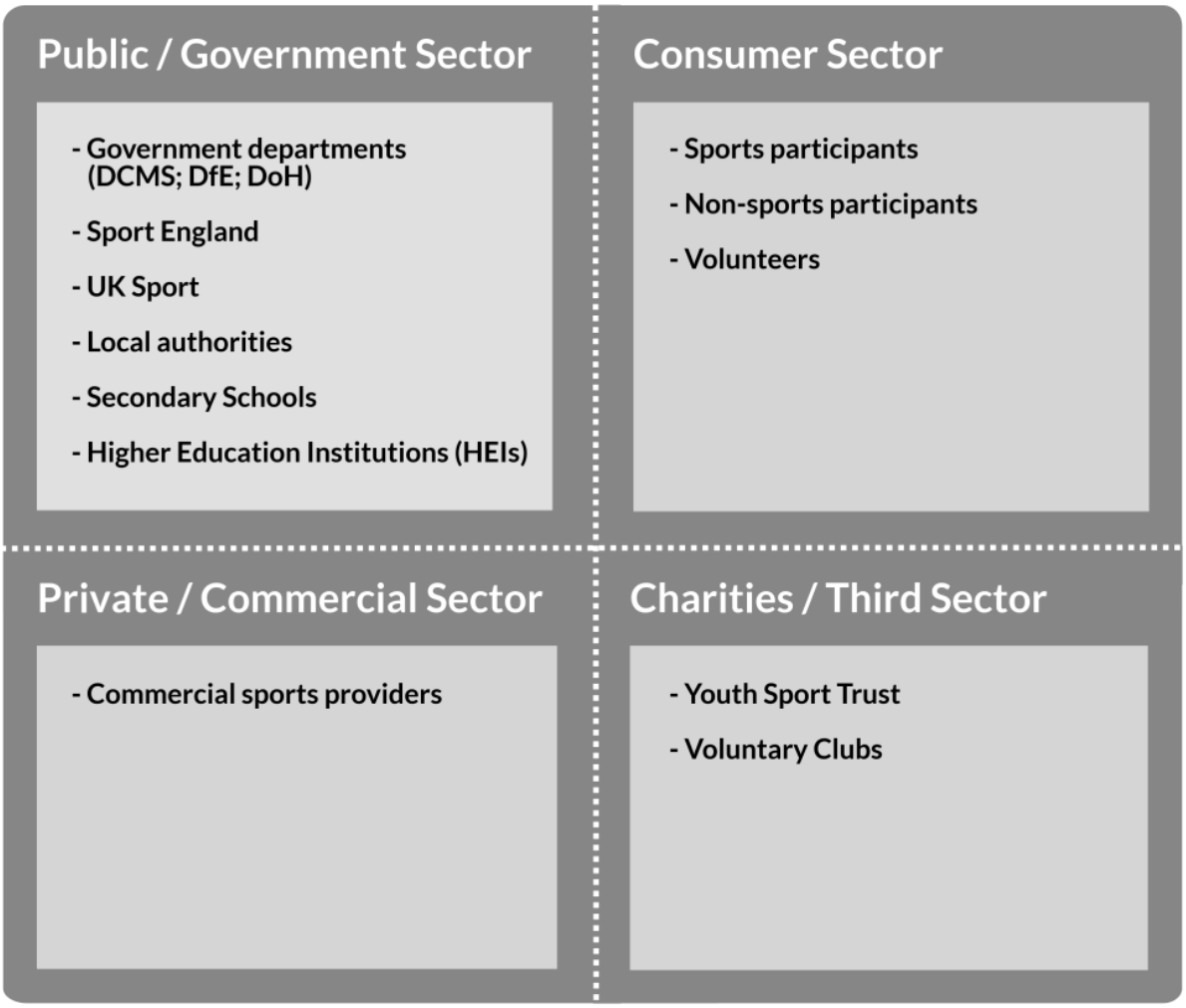

Figure 3: Impact map