

The perceived influence of sport event spectatorship on subjective wellbeing

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The perceived influence of sport event spectatorship on subjective wellbeing

Abstract

The purpose of this paper is to examine the perceived influence of major sports events on the subjective wellbeing of spectators. The research covered three sporting events featuring racket sports held in the UK between 2017 and 2018 and was concerned with spectators (aged 16 and over) who attended one of these events. Four aspects of subjective wellbeing were considered: life satisfaction; happiness; feeling worthwhile; and, anxiety. A composite subjective wellbeing measure encompassing these aspects was also developed. Primary data was collected from spectators at each event and an overall spectator sample of 362 was achieved. Respondents perceived that their subjective wellbeing was enhanced significantly as a consequence of attending major sports events across all measures. We also found that frequency of event attendance and being inspired by events to be more physically active were positively and significantly associated with perceived improvements in subjective wellbeing attributed to attending events. Our study indicates that there are two potential mechanisms through which improvements in subjective wellbeing from attending major sports events are manifested. First, a direct effect of being at an event on subjective wellbeing. Second, an indirect effect of event attendance on subjective wellbeing that stems from a feeling of inspiration.

Keywords: events; happiness; life satisfaction; spectators; wellbeing

Introduction

The investment required in bidding for and hosting of major sports events is usually justified by promoters citing the 'legacies' that they allegedly produce. The broad types of legacies that are typically cited in advance of hosting major sports events include economic, urban regeneration, national pride/feel-good factor, increased participation in physical activity and sport and international prestige and 'soft power' (Grix, Brannagan, Wood, & Wynne, 2017). However, such claims are often presented as self-evident and usually lack theoretical specification and coherence (Grix & Carmichael, 2012) and the extent to which they are realised is not properly evidenced. Empirical evidence of positive health or socio-economic impacts on host populations resulting from hosting major sporting events is inconclusive (McCartney et al., 2010). It is no surprise then that the hosting of major sports events on the premise of achieving certain types of legacies, such as increasing sport participation, has been questioned by academics and even described as a 'bad investment' (Weed et al., 2015).

Although there is some evidence to suggest that sports events create a so-called 'feel-good' factor for the host nation (Maennig & Porchse, 2008), and some studies have established a significant association between hosting marquee football tournaments and increased happiness of host nation residents (Kavetsos & Szymanski, 2010, Kavetsos, 2012), the empirical investigation of the impact of major sporting events on the subjective wellbeing (SWB) of individuals is still very much in its infancy. Kavetsos and Szymanski (2010, p.160) argue that "it would seem to be a much stronger justification for public spending on these events if it could be claimed not that they will make us rich, but that they will make us happy". As evidenced in the literature review section, little is known about whether attending major sporting events generally is associated with improvements in the SWB of spectators. It is this gap in the academic literature that our study addresses through a co-ordinated programme of research conducted with spectators at three major (non-mega) sporting events

held in the UK between 2017 and 2018. Further details about the three events and the research programme are presented in the methods section.

The rest of the paper is structured in the following order. We first review the approaches used to measure SWB and academic literature concerning SWB in a sport event context. Next, we consider the wider relevance of our study in terms of UK Government policy. The specific research questions are then articulated followed by the methods used to investigate them. Finally, we present the results of our study, discuss the findings in relation to previous research, identify the limitations of our work and provide some directions for future research.

Literature review

Defining and measuring SWB

SWB is essentially about people evaluating their own lives. Diener (2000) contends that such evaluations of people's lives are both cognitive and affective. He adds that "people experience abundant SWB when they feel many pleasant and few unpleasant emotions, when they are engaged in interesting activities, when they experience many pleasures and few pains, and when they are satisfied with their lives" (p. 34). Human perception is fundamental to understanding an individual's wellbeing, as the only person who knows whether he or she is feeling well is that person (Layard, 2005). In other words, the best way to find out whether someone feels happy or sad is to ask that person.

Three broad approaches have been identified when measuring SWB - 'evaluative', 'experience' and 'eudemonic'. The evaluative approach to measuring SWB has been the most prevalent in international surveys and these types of questions have also been seen by policy makers as useful sources of information for some time (Donovan & Halpern, 2002). Under this approach respondents are required to make an information appraisal or cognitive

reflection of their life (Diener, 1994). For example, respondents can be asked to provide an assessment of their overall life satisfaction or certain aspects of their life such as their health, job and relationships. Other measures include general happiness measures that are not specific to a particular point in time. The experience approach focuses on people's positive and negative emotional experiences (or affect) over a short timeframe to measure well-being on a day-to-day basis (Dolan, Layard, & Metcalfe 2011; Hicks, 2011). The eudemonic approach draws on self-determination theory to measure such things as people's sense of meaning and purpose in life, connections with family and friends, a sense of control and whether they feel part of something bigger than themselves (Ryff, 1989).

Relationship between SWB, sport and sporting events

The majority of the research on the relationship between sport and SWB is set in the context of active sport participation and these studies typically involve analysis of secondary data from national surveys (Littlejohn, Taks, Wood, & Snelgrove, 2016). For example, recent research published by Sport England (2017) reveals that physically active people are happier and more satisfied with their lives, and are less likely to experience anxiety. Similarly, other studies have reported a significant positive relationship between SWB (happiness) and engagement in sport and physical activity (Downward & Rascuite, 2011; Forrest & McHale, 2011; Kavetsos, 2011). Nevertheless an important question that remains to be answered is whether sport is the cause or the effect of better SWB.

Elite sport is considered by many national governments to be a platform for stimulating wellbeing (Hallmann, Breuer, & Kuhnreich, 2013). There is some evidence of the relationship between success in elite sport and specific aspects of SWB. Using data on self-reported life satisfaction for 12 European countries, Kavetsos and Szymanski (2010) tested the hypothesis that hosting major sporting events including the Olympic Games, the FIFA

World Cup and the UEFA European Championship produces an increase in life satisfaction among the citizens of the host nation. Kavetsos and Szymanski (2010) concluded that hosting major football championships is significantly associated with increased reported life satisfaction in the period following the event, although they found no evidence of a lasting effect from hosting. A subsequent study by Kavetsos (2012) utilising pooled cross-sectional data for 16 European countries obtained from the Eurobarometer confirm the findings of Kavetsos and Szymanski (2010) in relation to the 2000 UEFA European Championship held jointly by Belgium and the Netherlands; they found that individuals in host nations were significantly more satisfied with their life in the period immediately following the event. Based on a nation-wide survey in Germany, Hallmann et al. (2013) found that nearly two-thirds of respondents were happy when German athletes won medals at the Olympic Games or World Championships.

There is a paucity of research that examines the relationship between SWB and experiencing sports events. Pawlowski, Downward and Rascuite (2014) analysed data for 33 countries drawn from the International Social Survey Programme including SWB (happiness) and the frequency of attending sporting events as a spectator. Their analysis indicates that actual attendance at events is associated positively with happiness. Similarly, data from Australia and the United States has revealed a positive association between live spectating at elite and professional sport events and life satisfaction (Inoue, Sato, Filo, Du, & Funk, 2017). Such findings may help to explain the hosting effects identified by Kavetsos and Szymanski (2010) and Kavetsos (2012).

Some researchers have analysed SWB and sport spectatorship in relation to team identification. Jang, Ko, Wann and Kim (2017) examined the effect of team identification on spectators' happiness in relation to two football matches involving the U.S. men's national soccer team. Their study revealed that spectators with high team identification reported a

greater level of happiness than those with low team identification only when their team won the game. When the supported team lost the game, spectators with both high and low team identification experienced similar levels of happiness. Analysing data from residents of one city in the United States, Inoue et al. (2017) found that individuals in Philadelphia with higher levels of team identification with professional sport teams perceived greater emotional support from other fans, and this perception, in turn, predicted life satisfaction. It has also been shown that the level of team identification with a college sport team is more strongly associated with college students' wellbeing than is attendance at the team's games (Wann, Brame, Clarkson, & Brooks, 2008).

Other researchers have examined the effect of sporting events on non-attendees. A study conducted in Korea concluded that sport event viewing (on television or the internet) contributes to improved wellbeing (happiness) of viewers by virtue of fulfilling their hedonic, eudemonic and social needs (Kim, Kim, & Kim, 2017). Taks, Littejohn, Snelgrove and Wood (2016) analysed whether the hosting of two non-mega sport events in Canada in 2014 affected the happiness of residents in the host community. They found that residents experienced higher levels of happiness, merely by being aware that the two events were being hosted in the community, regardless of whether they attended the event or not.

A clear gap in the literature is that there has been very little primary research undertaken with spectators who attend major sports events about whether event attendance contributes to their SWB. It has been suggested that the effect of increasing SWB by pursuing leisure activities, such as attending a sport event, could be explained by creating opportunities for individuals to experience pleasure and fun, keeping individuals busy, developing and confirming identities tied to the activity, encouraging personal growth, and serving as a resource for coping with stress (Mannell & Snelgrove, 2011). Research conducted in the UK has shown that attending major sports events can 'inspire' spectators to consider increasing

their own frequency of participation in sport and physical activity (Ramchandani & Coleman, 2012; Ramchandani, Coleman, & Bingham, 2017; Ramchandani, Coleman, & Christy, 2017). Ramchandani and Coleman (2012, p. 269) suggest that "major events can play an important role at the start of what is a complex process, sparking people's desire to participate or participate more frequently, and sign posting them towards the next stage of that journey". The factors that contribute to a sense of inspiration are linked mainly to the skill and ability of the athletes and quality of the competition (Ramchandani & Coleman, 2012). It is not yet known if individuals who report feeling inspired to increase their activity levels are also more likely report that events contribute positively to their SWB.

UK policy context

Some important political developments have occurred in the UK in recent years that are particularly relevant to our study. In 2010, David Cameron, the Prime Minister of the UK at that time, committed to "start measuring our progress as a country, not just by how our economy is growing, but by how our lives are improving; not just by our standard of living, but by our quality of life" (HM Government, 2010). In response the Office for National Statistics (ONS) set up the Measuring National Well-being (MNW) programme to develop and publish an accepted and trusted set of statistics for wellbeing, to complement traditional economic measures such as GDP and to offer a more rounded account of national progress. The MNW programme began in November 2010 with a six month national debate asking people, 'what matters', in order to understand what measures of well-being should include. Following 175 events involving 7,250 people and 34,000 responses received online or via other channels, the ONS developed a framework for measuring national well-being. The framework consists of a set of 41 headline measures of well-being grouped into ten domains such as personal wellbeing, health, the economy, and the natural environment. The 'personal

wellbeing' domain incorporates four measures that relate specifically to people's subjective assessment of their wellbeing, in terms of life satisfaction, happiness, anxiety and meaningfulness of day to day actions. Since April 2011, subjective wellbeing questions pertaining to these four measures have been added to selected ONS household surveys. The four personal well-being questions gained national statistics status in September 2014. The UK is not alone in measuring subjective well-being. Many European countries have set up programmes to improve the measurement of quality of life including introducing subjective well-being measures.

In December 2015, a new strategy for sport and physical activity in the UK, *Sporting Future*, was published (Cabinet Office, 2015). This strategy set out how success will be judged by impact on five key outcome areas that define why government invests in sport: (1) physical wellbeing; (2) mental wellbeing; (3) individual development; (4) social and community development; and, (5) economic development. The high level outcome associated with mental wellbeing in the sport strategy is 'improved subjective wellbeing'. The sport strategy also includes a series of key performance indicators designed to measure the intended outcomes. Two such key performance indicators are concerned with people's engagement with major sporting events: (1) number of people who have attended a live sporting event more than once in the past year ; and, (2) attendance at events supported through government and UK Sport major events programmes. A notable excerpt from the strategy is that:

People who regularly turn up and experience live sport, particularly when they support a specific team or athlete, can experience improved wellbeing or greater community engagement (p. 78).

It is this perceived notion of improved wellbeing, specifically subjective wellbeing, as a direct consequence of attending major sporting events that we attempt to test empirically by conducting primary research with spectators at three recent sporting events held in the UK.

The research questions

The overall impression from the literature is that most of the studies that investigate the relationship between sporting events and SWB employ a 'top-down' approach, through secondary analysis of macro-level data derived from large scale national surveys. A relative limitation of this approach is that it is not designed purposefully to test this relationship, which has two implications. First, any linkage between sporting events and SWB is associative rather than casual. Second, reverse causality cannot be ruled out, that is, it may be that people who are happier or more satisfied with their lives are more inclined to attend sporting events. Consequently, a 'bottom-up' approach is required to distinguish between the underlying cause and the resulting effect.

A further shortcoming of previous research is that there has been a tendency to focus on population-level results, which does not facilitate a more granular analysis of people who attend events and those who do not. Moreover, previous studies have focused typically on a single aspect of SWB (e.g. some studies focus on happiness whereas others focus on life satisfaction) and have not tested the relationship between SWB and inspiration. Our study addresses some of these methodological issues and attempts to answer the following key research questions:

1. How do spectators attending major sports events rate their own quality of life?
2. Do spectators perceive that attending major sporting events positively influences different components of their SWB?

3. Are any perceived improvements in SWB linked to event attendance associated with an inspiration effect generated by events?

Methods

Context

Our study was undertaken in the context of three major sports events of international sporting importance held in the UK between 2017 and 2018. A common feature of these events was that they featured one of three racket sports - squash, table tennis and badminton. The events were as follows:

- 2017 Men's World Open Squash Championship, held in Manchester from 8-17 December 2017.
- 2018 ITTF Team World Cup, held in London from 22-25 February 2018.
- The 2018 All England Open, held in Birmingham from 14-18 March 2018.

The primary research at these events involved surveying spectators aged 16 and over using a standard questionnaire that was designed to measure their state of SWB and the extent to which this was affected by their attendance at major sports events.

Operationalising SWB

We adopted a concise and balanced approach to measuring the SWB of spectators, taking into account evaluative, eudemonic and experience (positive and negative affect) measures.

The following four SWB questions were included on the spectator questionnaire:

1. Overall, how satisfied are you with your life nowadays? (evaluative)
2. Overall, to what extent do you feel the things you do in your life are worthwhile?
(eudemonic)

3. Overall, how happy did you feel yesterday? (positive affect)
4. Overall, how anxious did you feel yesterday? (negative affect)

Spectators were asked to respond to each question on an 11 point scale of 0 to 10, where 0 is 'not at all' and 10 is 'completely'. These questions were developed originally by the ONS as part of the MNW Programme in the UK and have been asked on ONS surveys to adults aged 16 and over in the UK since 2011. The thresholds advocated by the ONS for the four SWB questions are presented in Table 1.

<TABLE 1 HERE>

For the life satisfaction (LS), worthwhile (W) and happiness (H) measures, higher scores represent a state of better SWB, whereas for anxiety (A) a lower score is desirable for better SWB. However, for the purpose of our analysis, we have reversed the anxiety scale for two reasons. First, reversing the anxiety scale, so that higher scores are more desirable for negative affect, allowed for a more appropriate comparison with the evaluative, eudemonic and positive affect measures. Second, it was possible to compute an overall composite measure by taking an average of the scores for the four SWB measures. This composite measure is hereafter referred to by the acronym WALSH. The thresholds for the reverse-scaled anxiety measure were as follows: very low (9-10); low (7-8); medium (5-6); high (0-4).

In order to investigate the influence of attending major sports events on spectators' SWB, survey respondents were asked to indicate their level of agreement with each the following statements on a five point Likert scale (1 = strongly disagree; 2 = disagree; 3 = neither agree nor disagree; 4 = agree; 5 = strongly agree):

1. Attending major sports events makes a positive contribution to my overall life satisfaction.
2. Attending major sports events gives me a sense of doing something worthwhile.
3. Attending major sports events makes me feel happier than I do normally.
4. Attending major sports events makes me feel less anxious than I do normally.

These statements were deliberately worded in such a way to capture how spectating at events in general affected SWB rather than pinpointing the specific event at which respondents were surveyed. Aside from measuring the impact of event attendance on the specific aspects of SWB, we also derived an impact rating for WALSH by averaging the scores across the four statements.

Other key variables

Survey respondents were also asked to state the extent to which attending major sports events made them feel inspired to increase their participation in sport and physical activity. The same five point scale utilised for SWB was used to capture responses to the following statements.

1. Attending major sports events inspires me to do more sport and physical activity than I would do normally.
2. Attending major sports events inspires me to do sport and physical activity at a higher intensity than I would do normally.

Respondents who strongly agreed or agreed with one or both of these statements were classified as being 'inspired'. The remaining respondents were classified as being 'not inspired'. The survey instrument also included a question about the number of major sports events that spectators had attended in the last 12 months. This question was designed to get a

feel for respondents' level of engagement with, and exposure to, major sports events. Both the inspiration and event attendance variables were used to explore differences in how respondents perceived that experiencing major sports events influenced different aspects of their SWB.

Data collection and sample profile

A total of 362 questionnaires were completed by spectators aged 16 and over across the three events (96 at the squash, 121 at the table tennis and 145 at the badminton). The surveying was conducted with spectators on-site during the events using a paper-based questionnaire and a convenience sample was obtained. Researchers were on hand to introduce the purpose of the study and to distribute and collect the questionnaires. The majority of the overall sample was male (68.7%) and the mean age of respondents was 41.7 years. For 29.6% of respondents, the event at which they were surveyed was the first major sports event they had attended in the last 12 months. A further 25.1% had attended two events in the same time period, whereas 45.3% had been to three or more events.

Data analysis

The data analysis was conducted using SPSS version 24. Percentages and mean scores were calculated for all SWB measures and for the Likert scale questions. One sample t-tests were conducted to examine whether the mean SWB scores were significantly above or below a particular threshold and whether the mean agreement scores for the impact of event attendance on SWB were significantly different from the neutral score. Pearson correlations were calculated to explore the association between the four SWB measures and WALSH. A repeated measures ANOVA was run to test for differences in the mean agreement scores between the four SWB measures. A one-way ANOVA was run to test for significant

differences in mean agreement scores for the SWB measures between respondents with different levels of exposure to major sports events based on their frequency of attending events in the last 12 months (once, twice, or three or more times). Differences in mean agreement scores for the SWB measures between respondents who were classified as being 'inspired and 'not inspired' were also tested for statistical significance using a one-way ANOVA.

Results

Respondents' state of SWB

Figure 1 shows the mean scores (out of ten) for the four distinct measures of SWB and the composite WALSH measure in our sample (n=362). Relative to the prescribed ONS thresholds for each measure, the mean scores for the overall sample for LS, W, and H were found to be 'high' (i.e. significantly higher than seven, $p < 0.001$), whereas the threshold for the reversed A measure was 'low' (i.e. significantly higher than six, $p < 0.001$; but not significantly different from seven, $p = 0.40$).

<FIGURE 1 HERE>

The correlation matrix between the subjective wellbeing measures for the overall sample is presented in Table 2. There were strong and statistically significant correlations between the specific SWB measures and WALSH ($r \geq 0.7$, $p < 0.001$), which indicates that WALSH adequately captures the four measures.

<TABLE 2 HERE>

Perceived influence of event attendance on SWB

Figure 2 shows the mean agreement scores (out of five) based on the perceived influence of attending major sports events on the SWB of respondents across the sample overall. For each SWB measure, the mean agreement score was found to be significantly higher than the neutral score of three ($p < 0.001$).

<FIGURE 2 HERE>

A repeated measures ANOVA determined that the overall mean agreement scores differed significantly between the four SWB measures ($p < 0.001$). Post hoc tests using the Bonferroni adjustment revealed that the overall mean agreement score for LS was significantly higher than the scores for W, H and A ($p < 0.001$). H had a significantly higher overall mean agreement score compared with W ($p < 0.05$) and A ($p < 0.001$), whereas the overall mean agreement score for A was significantly lower than all other SWB measures ($p < 0.001$).

Table 3 shows the mean agreement scores relative to the number of major sports events that respondents had attended in the last year (including the event at which they were surveyed).

<TABLE 3 HERE>

A one-way ANOVA confirmed that the mean agreement scores for LS ($p < 0.001$), W ($p < 0.05$) and WALSH ($p < 0.05$) differed significantly according to the frequency of event attendance. Respondents who attended three or more events in the last year had significantly higher agreement scores for each of these SWB measures than those who attended only one event in the same time period ($p < 0.05$). Moreover, respondents who had attended two

events had a significantly higher agreement score for LS compared with those who had attended only one event ($p < 0.05$).

Relationship between inspiration and SWB

Overall 78.3% of the spectator sample agreed or strongly agreed that attending major sports events inspired them to do more sport and physical activity and/or inspired them do sport and physical activity at a higher intensity than they would do normally. The data in Table 4 illustrates that the perceived influence of attending major sports events on the SWB of respondents was consistently higher among the 'inspired' sub-sample compared to those who did not report an inspiration effect. For each of these SWB measures, the differences in scores between the two groups were statistically significantly ($p < 0.001$).

<TABLE 4 HERE>

Discussion

Positioning our study

Most of the previous research on the relationship between sporting events and SWB has involved analysis of secondary population-level survey data that was not gathered with the intention to investigate this relationship and has focused on a single measure of SWB. Consequently, it has been difficult to establish a direct cause and effect relationship, examine how events contribute to different aspects of SWB and consider their effect on the SWB of different sub-population groups (e.g. spectators, television audiences, host city residents etc.). Conceptually, a key strength of our study is that it tackles some of these methodological shortcomings through a programme of primary research with spectators attending one of three major sports events in the UK and incorporates multiple SWB measures including

evaluative (life satisfaction), eudemonic (feeling worthwhile) and affect (happiness and anxiety) dimensions. The questions and scales used for these SWB measures are endorsed by the ONS in the UK. We also devised a composite SWB measure that encompasses these different measures (WALSH).

The key findings in context

Our study set out to answer three research questions. The first research question was concerned with assessing how spectators attending major sports events evaluated their own lives in relation to the different SWB measures. In comparison with most recent wellbeing estimates available for the UK population as a whole provided by the Annual Population Survey (ONS, 2018), our spectator sample exhibited marginally higher levels of life satisfaction (7.86 v 7.69) and happiness (7.56 v 7.53). However, our sample also had marginally lower scores in terms of the feeling worthwhile measure (7.76 v 7.88) and the reverse-scaled anxiety measure (6.87 v 7.09). These subtle fluctuations between the SWB of event spectators and the general population may well reflect the fact that the socio-demographic profile of spectators is not necessarily representative of the UK population, and different groups may exhibit levels of SWB. For example, previous research has suggested that the relationship between age and aspects of SWB is U-shaped, that is, highest among younger people and older people and lowest among people in their middle years (Blanchflower and Oswald, 2008). It is equally possible that individuals who are happier or more satisfied with their lives are more predisposed to attending such events in the first place. The potential bias of reverse causality is also highlighted by Kavetsos (2011) in the context of the relationship between happiness and active sport participation.

Our second research question was concerned with investigating the relationship between event attendance and spectators' SWB. We found that attending major sports events

was significantly associated with spectators' SWB across all the measures examined and that this effect was most evident in terms of life satisfaction and happiness - see Figure 2. This finding supports the view that live spectating is a significant predictor of life satisfaction based on previous research conducted in two countries (Inoue et al., 2017) and is also consistent with the work of Kim et al. (2017), which illustrated that sport event viewing leads to improved happiness through need fulfillment. We also found that the frequency of attending events was significantly related to the perceived influence of event attendance on SWB in terms of life satisfaction and feeling worthwhile as well as for the composite WALSH measure - see Table 3. This finding resonates with a study of professional sport fans in the United States, according to which their levels of life satisfaction increased as they attended more home games of their favorite team (Inoue et al., 2017). Pawlowski et al. (2014) also found evidence of a positive association between the frequency of spectating at sports events and wellbeing, although wellbeing in their study was defined as happiness.

Our third research question was concerned with testing whether there was any link between improvements in SWB and an inspiration effect resulting from event attendance as perceived by spectators. It has been illustrated consistently in a UK context that attending major sports events can have a positive impact on spectators' attitudes towards taking part in sport at a given point in time (Ramchandani & Coleman, 2012; Ramchandani, Kokolakis, & Coleman, 2014; Ramchandani, Coleman, & Bingham, 2017), although lasting changes in sport participation behaviour that can be attributed to attending specific events are far less evident (Ramchandani et al., 2015; Ramchandani, Coleman, & Christy, 2017). The prevalence of an initial inspiration effect was also evident in our study. More importantly, our study advances knowledge by showing that the perceived influence of event attendance on SWB appears to be amplified when spectators reported being inspired by attending events, as evidenced by the data presented in Table 4. Previous research has highlighted the importance

of team identification when considering the relationship between sport spectatorship and specific aspects of SWB in different sporting competitions (Inoue et al., 2017; Jang et al., 2017; Wann et al., 2008) and the findings from our study highlight the potential relevance of inspiration to this relationship. Even among those who were not inspired there was some evidence of reported improvements in SWB from attending events. Therefore, there appear to be two potential mechanisms through which improvements in SWB from attending major sports events are manifested. First, a direct effect of being at an event on SWB. Second, an indirect effect of event attendance on SWB that stems from a feeling of inspiration.

Practical implications

Improving SWB through sport is a key outcome identified in the current UK Government strategy for sport (Cabinet Office, 2015). In this regard our study has shown that attending major sports events can contribute to the achievement of this desired outcome. Therefore, from a practical point of view, event organisers and other stakeholders should consider ways in which to make the event offer and environment more inclusive and accessible to everyone by removing any practical and emotional barriers that prevent people from going to watch major sports events. Practical barriers may include not knowing what events are on or how to get tickets, whereas emotional barriers may include the perception of exclusion or an intolerant atmosphere.

Our study also illustrates that events can serve as a platform for inspiring audiences to increase their physical activity levels, which appears to have a positive knock-on effect on their SWB. In order to maximise the impact of events on the SWB of spectators, event organisers should work with national governing bodies of sport and devise strategies to strengthen the inspiration effect of their events. Providing spectators with an inspirational experience at events might involve giving them opportunities to meet elite athletes and hear

about how they got started in sport, organising taster sessions and signposting spectators to opportunities to participate in sport.

By strengthening the inspiration effect of an event, event organisers would also increase the likelihood of there being a subsequent change in the participation behaviour of spectators. Should such a behaviour change occur, then this is likely to lead to further SWB gains given that previous research has identified significant positive relationship between sport participation and SWB (Downward and Rascuite, 2011; Forrest and McHale, 2011; Kavetsos, 2011; Sport England, 2017).

Limitations and future research

Our study has provided some new insights about the impact of attending major sports events on spectators' SWB. Nevertheless, it is important to acknowledge the main limitations of our study, some of which provide natural directions for future research. First, the overall sample size achieved across the three events was relatively small. A larger sample would have provided more robust data upon which to base our conclusions. Second, the research design did not allow the effect of attending specific events to be analysed, which should be explored further by researchers. For example, does attending major sports events that feature different sports influence SWB in different ways? Third, our research has focussed on whether attending events influences SWB in isolation; future research would benefit from analysing the relative effect of event attendance compared with other things that people experience in their lives. Fourth, while we propose that there is an incremental effect on spectators' SWB from being inspired by attending events, the possibility of reverse causality cannot be ruled out entirely. In other words, it may be possible that former influences the latter to some extent. Finally, our study stopped short of testing whether spectators who resided in the host communities in which the events took place reported different impacts of attendance on their

SWB compared to those who resided further afield. This presents another avenue for further research.

References

1. Cabinet Office (2015). Sporting Future - a new strategy for an active nation. Retrieved from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/486622/Sporting_Future_ACCESSIBLE.pdf.
2. Blanchflower, D., & Oswald, A. (2008). Is well-being U-shaped over the life cycle? *Social Science and Medicine*, 66(8), 1733-1749.
3. Diener, E. (1994). Assessing subjective well-being: progress and opportunities. *Social Indicators Research*, 31(2), 103-157.
4. Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index. *American Psychologist*, 55(1), 34–43.
5. Dolan, P, Layard, R., & Metcalfe, R. (2011). *Measuring subjective well-being for public policy: recommendations on measures*. London: London School of Economics and Political Science.
6. Donovan, N., & Halpern, D. (2002). *Life satisfaction: the state of knowledge and implications for government*. London: Prime Minister's Strategy Unit.
7. Downward, P., & Rascuite, S. (2011). Does sport make you happy? An analysis of the well-being derived from sports participation. *International Review of Applied Economics*, 25(3), 331-348.
8. Forrest, D., & McHale, I. G. (2011). Subjective well-being and engagement in sport: evidence from England. In P. Rodriguez, S. Kesenne & B.R. Humphreys (Eds.), *The economics of sport, health and happiness: the promotion of well-being through sporting activities* (pp. 184–199). Northampton, MA: Edward Elgar.
9. Grix, J., & Carmichael, F. (2012). Why do governments invest in elite sport? A polemic. *International Journal of Sport Policy and Politics*, 4(1), 73–90.

10. Grix, J. Brannagan, P.M., Wood, H., & Wynne, C. (2017). State strategies for leveraging sports mega-events: unpacking the concept of 'legacy'. *International Journal of Sport Policy and Politics*, 9(2), 203-218.
11. Hallmann, K., Breuer, C., & Kuhnreich, B. (2013). Happiness, pride and elite sporting success: what populations gain the most from national athletic achievements? *Sport Management Review*, 16(1), 226-235.
12. Hicks, S. (2011). The measurement of subjective well-being: paper for the measuring national well-being. Retrieved from: www.ons.gov.uk/well-being/the-measurement-of-subjective-well-being.pdf
13. HM Government (2010). PM speech on wellbeing. Retrieved from: <https://www.gov.uk/government/speeches/pm-speech-on-wellbeing>
14. Inoue, Y., Sato, M., Filo, K., Du, J., & Funk, D. (2017). Sport spectatorship and life satisfaction: a multicountry investigation. *Journal of Sport Management*, 31(4), 419-432.
15. Jang, W., Ko, Y.J., Wann, D., & Kim, D. (2017). Does spectatorship increase happiness? The energy perspective. *Journal of Sport Management*, 31(4), 333-344.
16. Kavetsos, G., & Szymanski, S. (2010). National well-being and international sports events. *Journal of Economic Psychology*, 31(2), 158-171.
17. Kavetsos, G. (2011). Physical activity and subjective well-being: an empirical analysis. In P. Rodriguez, S. Kesenne & B.R. Humphreys (Eds.), *The economics of sport, health and happiness: the promotion of well-being through sporting activities* (pp. 213-222). Northampton, MA: Edward Elgar.
18. Kavetsos, G. (2012). National pride: war minus the shooting. *Social Indicators Research*, 106(1), 173-185.

19. Kim, J., Kim, Y., & Kim D. (2017). Improving well-being through hedonic, eudaimonic, and social needs fulfilment in sports media consumption. *Sport Management Review*, 20(3), 309-321.
20. Layard, R. (2005). *Happiness: lessons from a new science*. London: Penguin.
21. Littlejohn, M., Taks, M., Wood, L., & Snelgrove, R. (2016). Sport events and happiness: towards the development of a measuring instrument. *World Leisure Journal*, 58(4), 255-266.
22. Maennig, W., & Porsche, M. (2008). The feel-good effect at mega sports events: recommendations for public and private administration informed by the experience of the FIFA World Cup 2006. Retrieved from: <https://core.ac.uk/download/pdf/6922427.pdf>
23. Mannell, R.C., & Snelgrove, R. (2011). Leisure and the psychological well-being and health of older adults. In Gibson, H. and Singleton, J. (Eds.), *Leisure, aging and well-being* (pp. 143–157). Champaign, IL: Human Kinetics.
24. McCartney, G., Thomas, S., Scott, J., Hamilton, V., Hanlon, P., Morrison, D., & Bond, L. (2010). The health and socioeconomic impacts of major multi-sport events: systematic review 1978-2008. Retrieved from: www.bmj.com/content/340/bmj.c2369
25. ONS (2018). Estimates of personal well-being from the Annual Population Survey. Retrieved from: <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/datasets/headlineestimatesofpersonalwellbeing>
26. Pawlowski, T. Downward, P., & Rascuite. S. (2014) Does national pride from international sporting success contribute to well-being? An international investigation. *Sport Management Review*, 17(2), 121-132.
27. Ramchandani, G., & Coleman, R. (2012). The inspirational effects of three major sport events. *International Journal of Event and Festival Management*, 3(3), 257-271.

28. Ramchandani, G., Kokolakis, T., & Coleman, R. (2014). Factors influencing the inspiration effect of major sports events on audience sport participation behaviour. *World Leisure Journal*, 56(3), 220-235.
29. Ramchandani, G., Davies, L.E., Coleman, R., Shibli, S., & Bingham, J. (2015). Limited or lasting legacy? The effect of non-mega sport event attendance on participation. *European Sport Management Quarterly*, 15(1), 93-110.
30. Ramchandani G., Coleman R., & Bingham, J. (2017). Sport participation behaviours of spectators attending major sports events and event induced attitudinal changes towards sport. *International Journal of Event and Festival Management*, 8(2), 121–135.
31. Ramchandani, G. Coleman. R., & Christy, E. (2017). The sport participation legacy of major events in the UK. *Health Promotion International*, doi: 10.1093/heapro/dax061
32. Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57(6), 1069-1081.
33. Sport England (2017). Active Lives Adult Survey: mental wellbeing, individual and community development analysis. Retrieved from:
<https://www.sportengland.org/media/12722/active-lives-adult-survey-report-december-2017.pdf>
34. Taks, M., Littlejohn, M., Snelgrove, R., & Wood, L. (2016). Sport events and residential happiness: the case of two non-mega sport events. *Journal of Global Sport Management*, 1(3-4), 90-109.
35. Wann, D., Brame, E., Clarkson, M. & Brooks, D. (2008). College student attendance at sporting events and the relationship between sport team identification and social psychological health. *Journal of Intercollegiate Sport*, 1(2), 242-254.

36. Weed, M., Coren, E. Fiore, J., Wellard, I., Chatziefstathiou, D., Mansfield, L., & Dowse, S. (2015). The Olympic Games and raising sport participation: a systematic review of evidence and an interrogation of policy for a demonstration effect. *European Sport Management Quarterly*, 15(2), 195-226.

TABLES AND FIGURES

Table 1: ONS thresholds for SWB measures

Measure	Very Low	Low	Medium	High	Very High
Life Satisfaction		0-4	5-6	7-8	9-10
Worthwhile		0-4	5-6	7-8	9-10
Happiness		0-4	5-6	7-8	9-10
Anxiety	0-1	2-3	4-5	6-10	

Table 2: Correlation matrix of the subjective wellbeing measures

Measure	Worthwhile	Happiness	Anxiety	WALSH
Life Satisfaction	0.608 [*]	0.479 [*]	0.265 [*]	0.738 [*]
Worthwhile		0.504 [*]	0.200 [*]	0.726 [*]
Happiness			0.289 [*]	0.754 [*]
Anxiety				0.700 [*]

^{*} p < 0.001

Table 3: Mean agreement scores by frequency of event attendance

Measure	One event Mean (SD)	Two events Mean (SD)	Three or more events Mean (SD)
Life Satisfaction	3.89 (1.17)	4.41 (0.84)	4.51 (0.52)
Worthwhile	3.43 (1.49)	3.67 (1.46)	3.94 (1.14)
Happiness	3.67 (1.37)	4.00 (1.22)	4.09 (1.02)
Anxiety	3.23 (1.41)	3.38 (1.32)	3.32 (1.39)
WALSH	3.55 (1.11)	3.86 (0.86)	3.97 (0.93)

Table 4: Mean agreement scores by inspiration effect

Measure	Inspired Mean (SD)	Not Inspired Mean (SD)
Life Satisfaction	4.47 (0.75)	3.81 (1.17)
Worthwhile	3.96 (1.29)	3.17 (1.32)
Happiness	4.21 (1.06)	3.32 (1.33)
Anxiety	3.49 (1.45)	2.79 (1.26)
WALSH	4.03 (0.86)	3.27 (0.97)

Figure 1: SWB mean scores

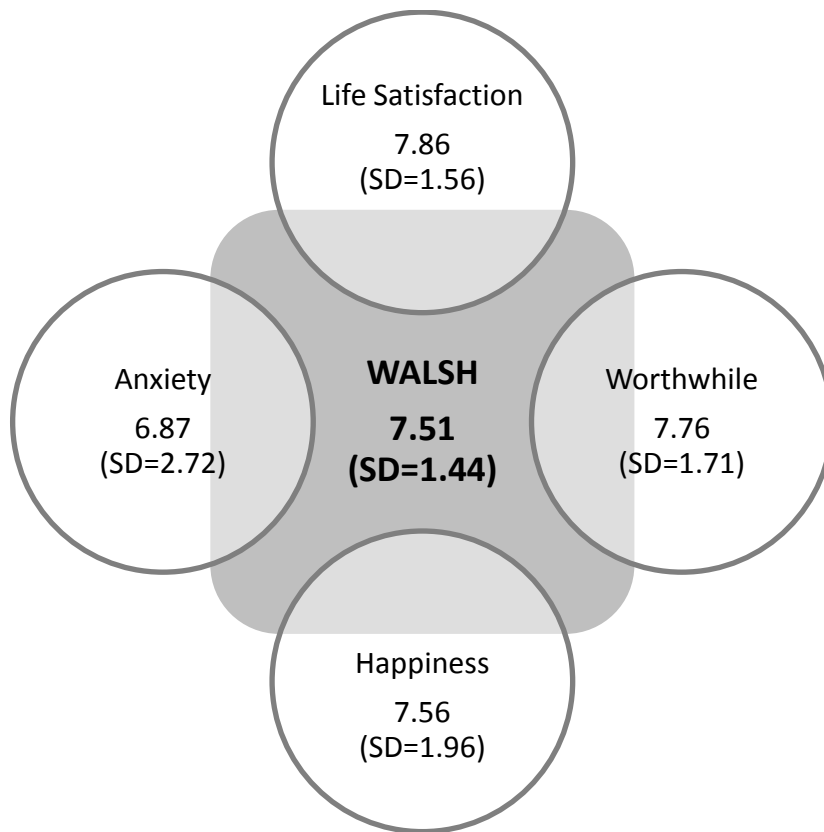


Figure 2: Perceived influence of attending sports events on SWB (mean agreement scores)

