

Understanding the value of engagement in culture and sport

Summary Report

July 2010



The CASE programme The Culture and Sport Evidence (CASE) programme is a three-year joint programme of research led by the Department for Culture, Media and Sport (DCMS) in collaboration with the Arts Council England (ACE), English Heritage (EH), the Museums, Libraries and Archives Council (MLA) and Sport England (SE).

The work on this project was carried out by a consortium led by the EPPI centre with Matrix Knowledge Group

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http://www.culture.gov.uk/what_we_do/research_and_statistics/5698.aspx

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1. Key messages

This report represents an important step in the development of evidence to inform policy making in the field of culture and sport. It addresses the question:

What is the value of engagement in culture and sport?

The existing literature suffers from a number of conceptual and empirical shortcomings, limiting the ability of decision makers to draw conclusions about how much should be spent on promoting engagement in culture and sport.

The research reported here presents two sets of innovative analyses aimed at addressing these issues. Each analysis employs cutting-edge analytical techniques and the best available evidence to identify new ways of determining the economic value of public engagement in culture and sport.

The analysis presented here addresses the economic value of engagement in two ways:

- a. Understanding **short-term individual value**. The improvement in subjective well-being associated with engagement in culture and sport, and the monetary value of these impacts.
- b. Understand the value of **long-term economic value to society**. Specifically the healthcare costs saved and improved health-related quality of life generated by doing sport.

The results provide policy makers with new estimates of the economic value of increased engagement generated by interventions. This information is important in informing the level of resources invested in increasing engagement in culture and sport.

Despite the contribution to the evidence base made by this report, there is still need for further research efforts to ensure that policy makers intervene most efficiently to increase engagement in culture and sport. The report suggests areas where these research efforts can be best focused.

This report is one of three sets of reports produced by the CASE programme's 'Understanding the drivers, impact and value of engagement in culture and sport' project. The other two reports answer the following questions:

- What factors **drive** engagement?
- What are the **impacts** of engagement?

This report and all the others are available on the CASE website: www.culture.gov.uk/case

2. Executive summary

Aim: To understand the value of engagement in culture and sport, including:

- Understanding **short-term individual value** - the improvement in subjective well-being generated by engagement in culture and sport.
- Understanding the value of **long-term health benefits** - the healthcare costs saved and improved health-related quality of life generated by doing sport.

Approach: This paper reports two pieces of innovative analysis undertaken to attempt to overcome the limitations of the existing literature. First, analysis is undertaken to estimate the value of the short-term private benefit generated by engagement in culture and sport. This analysis measured the impact of engagement on subjective well-being (SWB), and used this analysis to estimate the monetary value of engagement. The analysis drew on data in the *British Household Panel Survey (BHPS)* to measure the SWB effect of three types of engagement: doing sport; attending the cinema; and attending concerts. In order to allow the analysis to be undertaken for a broader range of engagement types, an analysis of the *Taking Part* survey was undertaken to predict levels of engagement in the following engagement types: doing sport; visiting a heritage site; visiting a museum; visiting a library; and attending an art event.

Second, a model was built to estimate the long-term health gains associated with doing sport. The model distinguished between the impact for five different age groups, and considered the varying intensity, duration, and frequency of engagement in different types of sport. The model estimated the impact of doing sport on the likelihood of experiencing four different health states: chronic heart disease (CHD), colon cancer, stroke, and type II diabetes. These effects were then valued in terms of health costs avoided and health-related quality of life gains.

Results – subjective well-being impacts: SWB measures can be used to inform policy making in a number of ways. First, SWB can be employed as a standard measure of policy outcomes, allowing the relative benefit of different policy outcomes to be compared. For instance, the analysis undertaken suggests that doing sport at least once a week increases SWB by approximately one third the amount achieved by avoiding health problems or one half the amount achieved by being employed (compared with being unemployed).

A second way in which SWB measures can be used to inform policy making is by estimating the monetary value of policy outcomes, which can be calculated using the income compensation (IC) approach. This enables policy makers to estimate the level of expenditure that can be justified to achieve the policy outcome. For instance, the analysis suggests that doing sport at least once a week generates SWB the equivalent to a £11,000 increase in annual household income.

Results – health impacts: Doing sport generates significant economic value in terms of healthcare costs saved and improved health related quality of life:

- The typical lifetime healthcare cost saving generated by doing sport varies between £1,750 (badminton) and £6,900 (health and fitness) per person.

- The total economic lifetime value generated by doing sport varies between £11,400 (badminton) and £45,800 (health and fitness) per person.

The variation in value is a result of two factors: the intensity level of the activity; and the duration and frequency with which a sport is undertaken.

Conclusion: This project represents an important step in the development of an evidence base to inform policy making in culture and sport. Two innovative methods have been applied to estimate the economic value generated by engagement in culture and sport.

The results provide policy makers with information on the value of improved engagement generated by interventions. In the absence of government intervention, the market may fail to efficiently provide engagement opportunities. The evidence generated by this report allows the value of engagement to be better represented in economic appraisals of policy options, balancing the costs of intervening with the benefits.

This research represents one of the first attempts to apply the SWB method to the culture and sport sectors. The application of the SWB method to value policy outcomes is in its infancy. What does this analysis suggest for the efficacy of employing this approach? A number of important caveats are identified which suggest areas for further research. First, research is required to generate better measures of engagement in culture and sport as well as the other factors that impact on SWB, ideally as part of longitudinal data. Second, research is required to understand how income impacts SWB and thus enable IC estimates to be calculated with greater accuracy.

Gaps in the evidence base also limited the extent to which modelling could be undertaken to estimate the long-term economic value generated by engagement. There are a range of other outcomes associated with engagement in culture and sport that were not included in the analysis because of limitations in the data available to construct the model necessary for this analysis. Further research should focus on analysing existing survey data, or generating new data, to assess the effect of engagement in culture and sport on such longer-term effects such as improved learning and community cohesion.

3. Introduction

The research objective

The Culture and Sport Evidence (CASE) programme was set up by the Department for Culture, Media and Sport (DCMS) in 2008, in collaboration with the sector-leading non-departmental public bodies (NDPBs), Arts Council England (ACE), English Heritage (EH), the Museums, Libraries and Archives Council (MLA) and Sport England (SE). The programme aims to generate strategic evidence for maximising engagement in culture and sport, and maximising the value and impacts people get from engaging in culture and sport. This strategic evidence will be used to inform the deployment of public funds to maximise engagement in sport and culture, and the value citizens in England receive from that engagement.

As part of the CASE programme, the EPPI-Centre (Institute of Education, University of London) and the Matrix Knowledge Group were commissioned to undertake a research project to investigate 'The drivers, impacts and value of engagement with culture and sport'. The project used systematic review methods and statistical and economic modelling techniques to begin the process of summarising existing research evidence and data on sporting and cultural engagement. This evidence will provide the basis for understanding what makes people engage in cultural and sporting activities, the wider impacts of engagement and ways of understanding the value they derive from engagement. An overview of the project and the findings and tools developed through it can be found in '*Understanding the drivers, impact and value of engagement in culture and sport: an overarching summary of the research*' published on the CASE website¹ alongside this report.

This report is a summary of one of four work streams undertaken as part of this project. A detailed technical summary of this work stream can be found in '*Understanding the value of engagement in culture and sport: Technical report*' published alongside this report on the CASE website

The objective of this part of the project is to answer the question:

What is the value of engagement in culture and sport?

Addressing this question has important policy implications as doing so promotes best practice for increasing engagement and delivering the wider benefits associated with it. This is a key aim of the DCMS and associated bodies.

Engagement in culture and sport can take many forms. Thus, before considering the value of engagement in culture and sport, a more precise definition of engagement is required. This

¹ See www.culture.gov.uk/case

project is concerned with engagement as attendance at cultural events / sites and participating in sport. More precisely still, the following definitions are adopted:

- Heritage: attending a heritage site.
- Art: attending an arts event.
- Sport: participating in sport.
- Museums, libraries and archives: attending a museum, library or archive.

Engagement in culture and sport was defined as **attendance** at cultural events / sites and **participation** in sport. These engagement types are the primary focus of public investment in culture and sport. Throughout the remainder of this report, the above engagement types are generically referred to as “engagement in culture and sport”.

The early stages of this project involved a stakeholder engagement exercise to define engagement, and the outcomes of engagement. It is important to note that a number of forms of engagement in culture and sport identified during that exercise are excluded from this report: ‘supporting’ (includes volunteering, donating, purchasing), and ‘producing’ (being a professional in culture or sport). Also excluded from the analysis at this stage is attendance at sporting events.

Our current understanding

What do we currently know about the value of engagement in culture and sport?

To date economists’ attempts to answer this question have tended to take the form of estimates of the impact of culture and sport on the economy, such as increased income and employment levels (see for instance Arts Council England, 1997; National Museum Directors’ Conference (NMDC), 2004 and 2006; Courtney et al, 2007; Ecotec, 2007; Sheffield Hallam, 2010). It is difficult to identify the value of individual engagements in culture and sport from such studies. Part of the value to the individual of engaging will be captured in the income earned by cultural and sport facilities as this reflects the amount people are willing to pay to engage. However, there are a number of reasons why market prices fail to capture the whole value of engagement.

People not involved in the decision to engage in culture and sport are nevertheless affected by it. When this happens, the impact on these people is not reflected in the market price – these impacts are referred to as ‘externalities’. For instance, the decision to engage in culture and sport may benefit future generations as it preserves the opportunity to engage by incentivising investment in culture or sporting assets to earn revenues now. However, the value to future generations is not explicitly represented in the decision to engage now, and thus assets will be preserved to a lesser extent than desirable.

Other externalities include the benefit to the community of improved health and social cohesion as a result of engagement in culture and sport. The physical activity associated with engaging in sport is associated with improved health outcomes. Healthy individuals will be more productive in the workplace, take fewer days off sick, and require less support from the NHS. These benefits fall to family members, co-workers, firms, taxpayers and generally

the whole of society rather than just to the healthy individuals themselves, causing those individuals to under-invest in their health from a societal point of view.

Engagement in culture is associated with a better knowledge of one's own culture and other cultures. Such outcomes provide a socialisation function, producing a common standard of citizenship and social cohesion. However, these benefits are experienced by society as a whole, rather than the individual deciding whether to engage in culture. Thus, from a societal point of view, too few people will decide to engage in culture.

The market's failure to capture the value of culture and sport is a prerequisite for government intervention to promote engagement. The value of engagement in culture and sport not captured by the market can be illustrated by considering whether those benefits associated with engagement that don't accrue to the individual engager. Table 1 summarises the benefits of engagement in culture and sport identified through a stakeholder engagement exercise undertaken as part of this project.

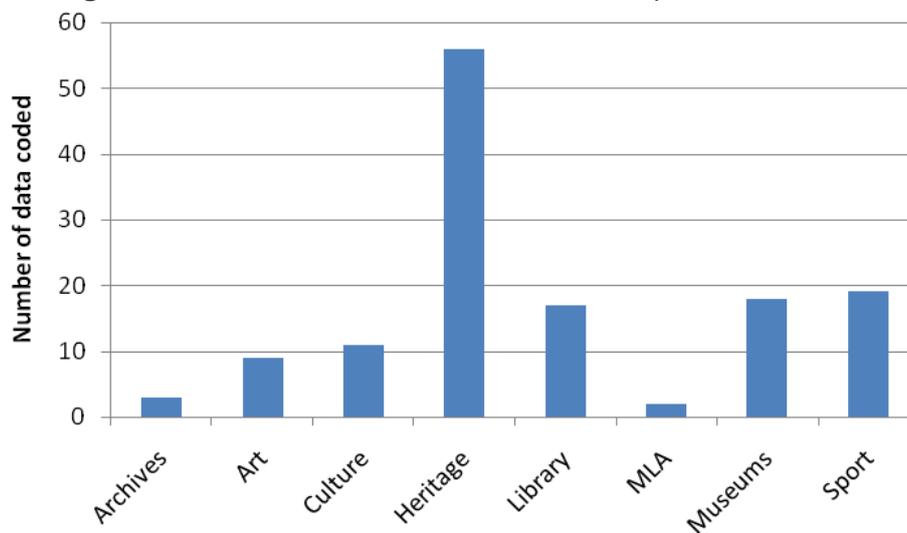
Many of the benefits identified in Table 1 are also discussed extensively in the literature, including: educational outcomes (Brice-Heath, 1998; Catterall et al, 1999; Burton et al., 2000; and Scott, 2003); community cohesion outcomes (Scott, 2003; Lowry and Mullen, 2007; and Siddons, 2007); and health benefits (Gratton and Taylor, 2000; Arts Council England, 2004; Gratton, 2004; and Staricoff, 2004).

Table 1: Benefits generated by engagement in culture and sport

Individual engager	Community	National
Achievement	Bequest value	Citizenship
Continuity with the past	Community cohesion	International reputation
Creativity	Community identity	National pride
Diversion	Creativity	
Enjoyment	Employment	
Escape	Existence value	
Expression	Innovation	
Health	Option to use	
Income	Productivity	
Inspiration	Reduced crime	
Knowledge of culture	Shared experience	
Self-esteem	Social capital	
Self-identity		
Skills/competency		
Solace/consolation		

A number of studies have been undertaken to try to measure people's 'willingness to pay' (WTP) for the broader benefits generated by engagement in culture and sport. A review of the literature identified 94 studies of the economic value of culture and sport containing 135 pieces of data. Of these, 52 (39%) were from the UK. The distribution of data across types of sport and culture are summarised in Figure 1. It demonstrates that heritage is by far the most researched field, with over 50 estimates of value being identified. Further detail on the review is available in the technical paper that accompanies this report.

Figure 1: Economic value data identified for sport and culture



'Culture' includes film and TV

The literature includes not only studies of market prices, but also broader assessments of people's WTP that, to some extent, capture the externalities that are not captured by the market – see earlier in this section. Figure 2 shows how the studies identified in the review relate to the types of engagement of interest to this study, distinguishing data derived from market prices and data derived from non-market valuation techniques. It demonstrates that, of these engagement types, the value associated with visiting a heritage site is relatively well-evidenced, with more than five studies on each of the market and the non-market values of using heritage sites.

Figure 2: Summary of economic value studies of engagement

Engagement type	Economic value		
	Market	Non-market	
Doing sport	No studies	1-5 studies	<ul style="list-style-type: none"> ■ No studies ■ 1-5 studies ■ > 5 studies
Visiting a heritage site	> 5 studies	> 5 studies	
Attending an art event	1-5 studies	1-5 studies	
Visiting a museum	> 5 studies	1-5 studies	
Visiting a library	> 5 studies	1-5 studies	
Visiting an archive	No studies	1-5 studies	

Only a small proportion of existing studies are UK-based. For instance, of the heritage studies identified, there were only six stated preference studies of people's willingness to pay to engage in or preserve heritage sites (see Garrod et al, 1996; Pollicino and Maddison, 1999; Powe and Willis, 1996; Ozdemiroglu and Mourato, 2001; Pung et al, 2004; and BMRC and MLA, 2005).

The literature tends to follow H.M. Treasury's guidance on conducting economic evaluation (HMT, 2003), which suggests that two sources of value should be considered. First, market values should be employed. Second, where market values are not available or are limited, one of two economic valuation techniques should be employed to infer WTP from peoples' behaviour (revealed preference) or to elicit peoples' WTP directly (stated preference techniques).

Challenges with conventional economic value techniques

Despite H.M. Treasury backing, there are a number of methodological concerns about the usefulness and validity of value estimates derived from WTP techniques. First, the methodological variation between the studies limits their comparability (see Ruiz, 2004). Second, there are questions about the transferability of value estimates between assets, as cultural and heritage sites are thought to be unique (see Brouwer and Spaininks, 1999; and Brown, 2004). Third, there are general concerns over the methodological validity of the value estimates produced using these techniques (see Dolan et al., 2008; and Dolan and Metcalfe, 2008).

A fourth concern about using WTP estimates is the argument that the value generated by culture cannot be captured by such a narrow definition of value (Throsby, 2001). It is often argued that there are certain goods that cannot be captured in value defined as WTP. For instance, a number of authors have identified an incommensurability of moral values and economic values (see Keat, 1997; Sagoff, 1988). Etzioni (1988) observed that actions undertaken with moral motivations (such as abstention from pre-marital sex, and Ramadan fasting) generate value that is qualitatively different from those achieved through consumption. Adhering to morals provides a sense of affirmation, of having done what is required, and re-establishing one's beliefs. In contrast to the values promoted in the market, this often involves the denial of pleasure in the name of the principles invoked.

Alternatives to willingness to pay

If WTP estimates are unable to capture all the value of engagement in culture and sport, how should engagement be valued? Parfit (1984) identifies a number of alternatives to the preference satisfaction account, including: mental state; objective list; and flourishing accounts. It is argued that mental state accounts of well-being, could offer an empirical alternative to estimates of WTP.

Mental state accounts draw on an individual's assessment of his life or SWB. The focus is on people's experiences and how these experiences are related to their evaluations of their lives or their hedonic (or pleasurable) experiences. The SWB approach has a number of

methodological advantages over the economic value methods (Dolan and Metcalfe, 2008). Measures of SWB can avoid many of the problems inherent in individual preferences, particularly those that are elicited in unfamiliar contexts, as well as avoiding the focusing effect (the tendency for respondents in contingent valuation studies to place more emphasis on the good being valued than they would do outside the context of the study).

Importantly, while the SWB approach is still very much in its infancy, its use as a tool for valuing the outcomes of public policy is receiving increasing amounts of interest from both academics (Dolan et al., 2008) and policy makers (see Stiglitz et al., 2009). Importantly, a recent H.M. Treasury position paper stated that SWB methods had the potential to support policy analysis and that the approach accorded with the strategic objectives of the Treasury (HMT, 2009).

The approach involves two steps. First, survey data is used to estimate how a person's SWB changes when they engage in culture and sport. The SWB approach involves measuring how people's self-assessment of their well-being varies as they experience outcomes targeted by policy. Well-being assessments are elicited, for instance, in response to questions such as how satisfied people are with their life overall. Answers are generally recorded on scales ranging from, for instance, 1 for not satisfied at all to 7 for completely satisfied. There was initial scepticism about whether responses to such questions could be sensitive enough to capture the effect of policy outcomes. There is, however, a growing literature on the sensitivity and validity of responses to life satisfaction questions (see Bell, 2005; Lyubomirsky et al., 2005; Peiró, 2006; Dolan and White, 2007; Dolan et al., 2008; and HMT, 2009).

Second, this change in SWB is valued monetarily using the 'income compensation (IC) approach'. That is, the analysis estimates the increase in SWB generated by an increase in income. This effect is then used to estimate the change in income that would generate the same change in SWB associated with engagement in culture and sport (see Oswald & Powdthavee (2007) for further discussion). As with the SWB method more generally, the use of ICs to value policy outcomes is in its infancy. The approach poses a number of methodological challenges, such as how to specify the relationship between income and SWB (see section 4 for further discussion).

To date, there has been little research on the impact of engagement in culture and sport on SWB. Galloway (2005) reviewed the literature on the impact of participation in culture and sport on quality of life (QoL) and sense of well-being. She found some evidence of a positive association between participation in cultural activities and sport/exercise and well-being. However, the methodological limitations of the studies made it difficult to conclude that engagement had an effect on well-being.

More recently two studies have been undertaken on the relationship between sport and happiness. Kavetsos and Szymanski (2008) demonstrate the impact of international sporting success and hosting major events on population happiness. Forrest and McHale (2008) analysed the *Taking Part* survey to estimate the relationship between participating in sport and SWB. They conclude that "women who choose to play sport [...] raise their level of well-being. [...] However, the result is not replicated for men" (pg. 1).

Overview of the report

The research summarised in this report attempts to overcome some of the limitations of the existing literature on the value of engagement in culture and sport. Two separate pieces of research are reported. Section 4 applies SWB measures to estimate the short-term personal value associated with engagement in culture and sport. Given the innovative nature of this method, the objective of this work is to consider whether this technique is a useful way to consider assessing the value of engagement.

Section 5 reports on research to measure the longer-term public value associated with engagement in culture and sport. As discussed in the previous section, there are a number of such longer-term public benefits of engagement in culture and sport, including improvements in learning and community cohesion. Given the limitations with the data, section 5 focuses on the longer-term health gains associated with doing sport.

Summary of the existing literature

Government intervention to promote and support engagement in culture and sport requires two conditions to be met. First, the market fails to ensure an optimal level of engagement. Second, the benefit generated by government action exceeds its cost. The literature identifies a number of reasons why the market might fail to ensure an efficient level of engagement in culture and sport. For instance, the value that the market puts on engagement ignores a number of important values generated by engagement, including the option to engage and social cohesion.

While government intervention to support engagement in culture and sport is supported by the limitations of the market to provide sufficient engagement opportunities, the existing literature on the value of engagement is limited. It provides little guidance as to the most efficient way for government to increase engagement. Not only is there a paucity of studies, few of these studies are undertaken in the UK. Furthermore, these studies estimate people's WTP to engage in culture and sport, while it is argued that this narrow notion of value fails to capture all the benefits of engagement.

An alternative to measuring WTP is proposed to estimate the value of engagement in culture and sport – the use of subjective well-being measures. This approach has the potential to overcome some of the methodological and conceptual limitations with conventional WTP-based estimates.

4. The economic value of engagement: Measuring short-term value based on subjective well-being assessments

Introduction

What is the economic value of engagement in culture and sport? Section 3 identified a dearth of existing studies, and concerns about the ability of conventional economic valuation techniques to answer this question. It also identified an alternative to these conventional techniques – the use of subjective well-being (SWB) measures.

The use of the SWB method to inform policy making is still in its infancy. Thus, despite the increased interest in the method, and the developing body of evidence to support the validity of the approach, it is important that the experimental nature of the approach is understood and that the output from the method is treated with the corresponding level of caution. The remainder of this section considers the usefulness of the SWB method by applying it to estimate the immediate, private benefit generated by engagement.

Method

Statistical analyses were run to estimate the effect of engagement in culture and sport on SWB. The approach adopted allowed the effect of other factors (such as demographics, socio-economic status and other characteristics or behaviours of an individual) on SWB to be “controlled for”. This ensures that the separate effect of engagement on SWB is isolated.

Measures on both engagement in culture and sport and SWB, as well as the other factors that influence SWB, were drawn from the *British Household Panel Survey (BHPS)*. The *BHPS* is a survey of adult individuals and households. It is longitudinal, having been carried out annually since 1991, and has a nationally representative sample of more than 10,000 adult individuals.

The *BHPS* only includes limited measures of engagement in culture and sport. Specifically, a number of waves of the *BHPS* include data on the frequency that respondents do sport, go to the cinema, and / or go to a concert. The analysis was run using these variables. However, in order to undertake the analysis with a broader set of engagement types, estimates of the predicted probability of engaging in culture and sport were also created. Data from the *Taking Part* survey was used to construct a model of the factors that influence engagement in culture and sport. This model was then applied to predict engagement in the *BHPS*. This approach allowed the analysis to be run for the following engagement types:

1. Heritage – visited a heritage site in the past 12 months.
2. Art – attended an arts event in the past 12 months.
3. Sport – whether a person has done three episodes of at least 30 minutes of moderate-intensity sporting activity in the past four weeks (as defined in the Sport England “1 million” indicator).

4. Museums – whether a person has visited a museum in the past 12 months.
5. Libraries – whether a person has visited a library in the past 12 months.

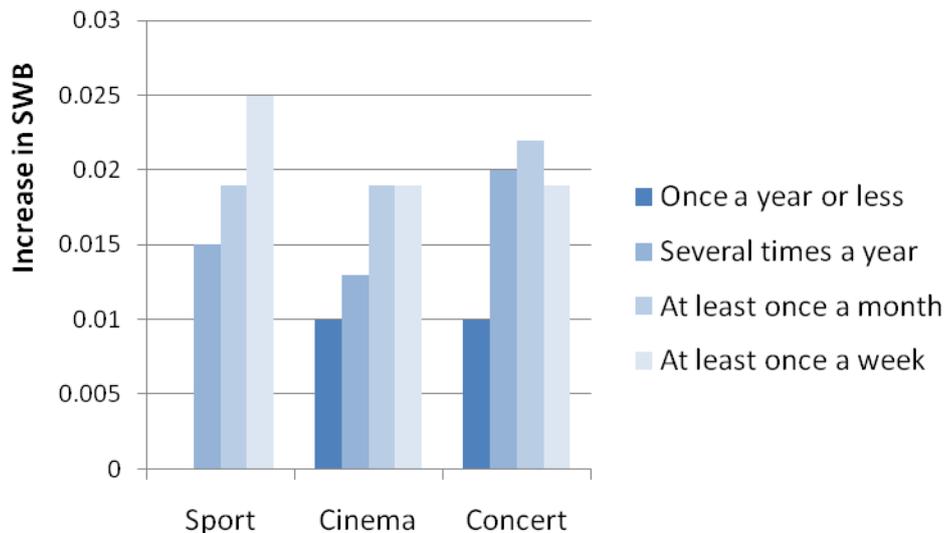
The income compensation (IC) approach was used to transform estimates of the impact of engagement on SWB into estimates of the monetary value of engagement. Specifically, the outputs from the analysis were employed to estimate the income required to hold SWB constant following a change in engagement in culture and sport.

Results

The subjective well-being impact of engagement

Figure 3 shows the estimated gains in SWB associated with doing sport, going to concerts or, for comparison, going to the cinema, based on actual measures of engagement in the BHPS. It demonstrates that engagement in culture and sport has a positive effect on SWB. The exception to this rule is doing sport once a year or less, which has no significant association with gains in SWB. Further, a higher frequency of engagement is generally associated with a higher level of SWB.

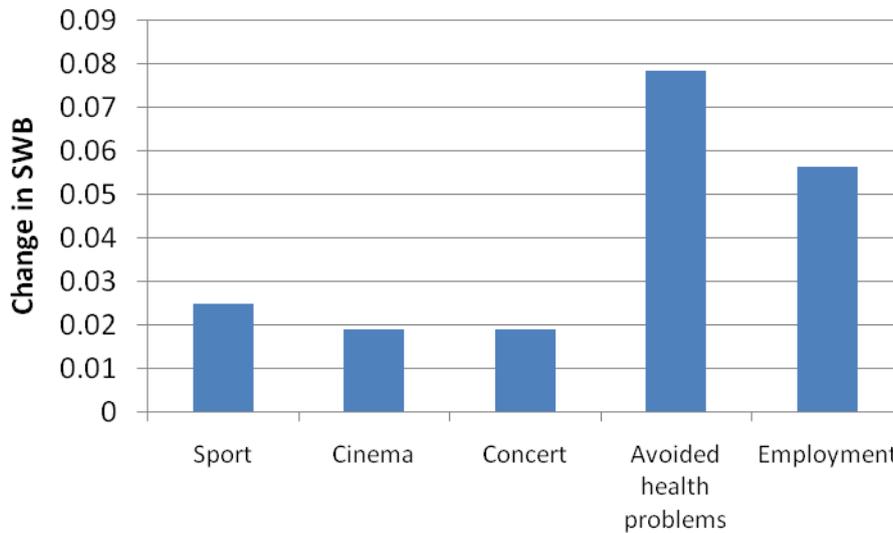
Figure 3: SWB changes associated with engagement in sport and the arts – based on actual measures of engagement



The SWB measures used in the analysis are responses to the question: “How dissatisfied or satisfied are you with your life overall?” The magnitude of the impact of engagement in culture and sport on SWB summarised in Figure 3 is measured in increments on a scale of 1 (not satisfied at all) to 7 (completely satisfied). Such an effect is easier to understand when compared with other policy outcomes, such as health and employment.

Figure 4 shows the effect of engagement in culture and sport and other policy outcomes on SWB. It demonstrates that, for instance, doing sport at least once a week increases SWB by approximately one third the amount achieved by avoiding health problems or one half the amount achieved by being employed (compared with being unemployed).

Figure 4: The SWB effect – comparison of engaging in culture and sport (at least once a week) and other policy outcomes

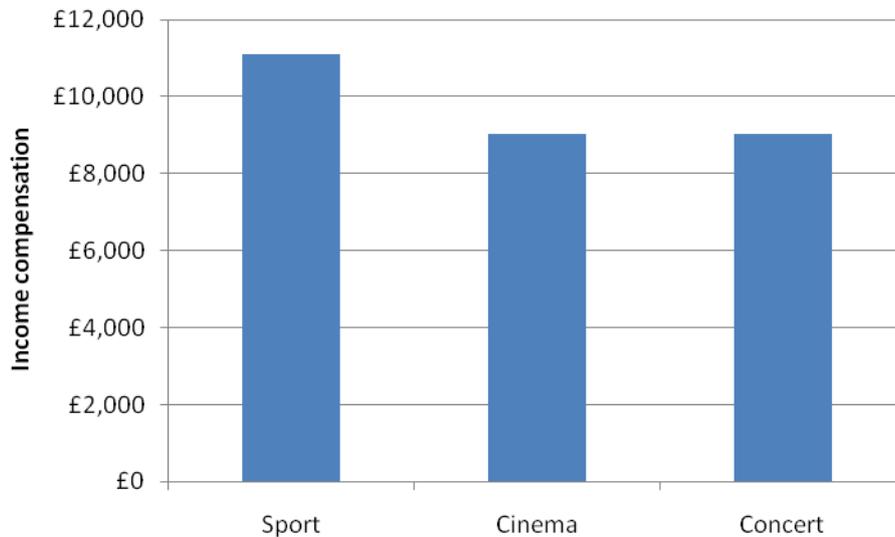


The previous results relate to the measures of actual engagement available in the *BHPS*. As noted in the previous section, an analysis was also run on measures of ‘predicted’ engagement based on the standard definitions used in the CASE partners’ Taking Part survey. This analysis used the outputs of the analysis in the ‘drivers of engagement report to predict engagement in the BHPS. The results are reported in the associated Technical Report only as there are a range of methodological issues with the ‘predicted’ approach that mean the results from that analysis should not be used for policy analysis. ..

Valuing engagement using ‘income compensation’

The IC approach can be used to convert estimates of the gain in SWB associated with policy outcomes, such as engagement in culture and sport, into estimates of the monetary value of these policy outcomes. Figure 6 shows the IC estimates for doing sport, attending a cinema, and attending a concert at least once a week (based on actual measures of engagement). It demonstrates that, for instance, doing sport at least once a week generates SWB the equivalent to a £11,000 increase in annual household income.

Figure 6: Income compensation estimates for engagement in culture and sport (at least once a week)



Discussion

This section presents the results of an analysis to establish the impact and monetary value of engagement in culture and sport on SWB. The application of the SWB method to value policy outcomes is in its infancy. What does this analysis suggest for the efficacy of employing this approach?

SWB measures can be used to inform policy making in a number of ways. First, SWB can be employed as a standard measure of policy outcomes, allowing the relative benefit of different policy outcomes to be compared. For instance, the analysis undertaken in this section estimates the effect of engagement in culture and sport on SWB and how this compared with the effect of other policy outcomes, such as improved health or reduced unemployment on SWB.

A second way in which SWB measures can be used to inform policy making is by estimating the monetary value of policy outcomes, which can be calculated using the IC approach. This enables policy makers to estimate the level of expenditure that can be justified to achieve the policy outcome.

The type of data summarised above represents an important development in the generation of evidence to inform policy making in the culture and sport sectors. However, this research also represents one of the first attempts to apply the SWB method to the culture and sport sectors and is thus subject to a number of important caveats. These caveats suggest that further analysis is required before the SWB can yield policy-relevant evidence.

First, some of the estimates of the effect of engagement in culture and sport on SWB are larger than would perhaps be expected. For instance, the SWB effect of going to a concert once a year or less is about one fifth of the SWB effect of being employed (vs. being unemployed). One possible explanation for this observation is that measures of engagement

in culture and sport are capturing not only the effect of engagement, but also the effect of other lifestyle characteristics associated with engagement and not measured separately in the analysis. Further research is required to generate better measures of engagement in culture and sport, as well as the other factors that impact on SWB.

Second, the estimated monetary value of engagement in culture and sport is also large. This observation points to a key methodological challenge facing the development of the IC methodology – the need for a better understanding of the relationship between income and SWB. Two relationships are measured in order to estimate the IC of policy outcomes: the effect of the policy outcome on SWB; and the effect of income on SWB. The validity of the current attempts to estimate the latter relationship is, however, still the subject of debate. Further research is required to understand how income impacts SWB and thus enable IC estimates to be calculated with greater accuracy.

5. The value of engagement: Measuring long-term value with decision modelling

Introduction

Section 4 described the short-term private benefits associated with engagement in culture and sport. As noted in Section 3, however, there are many values generated by engagement beyond these immediate private benefits. The objective of this section is to estimate the value of the longer-term benefits generated by engagement in culture and sport.

As summarised in Table 1 in Section 3, some of the longer-term benefits associated with engagement in culture and sport include health gains, improvements in employment and productivity, the social capital and cohesion benefits associated with shared experience and community-identify, bequest, reductions in crime and anti-social behaviour, and learning outcomes. These outcomes are broad and complexity of these outcomes. Therefore, the modelling approach focused on the outcomes for which data was available: health, learning, and social/community cohesion outcomes.

A key source of data for the construction of the models was the reviews undertaken by EPPI as part of this project (see *'Understanding the impact of engagement in culture and sport: a systematic review of the research on learning impacts for young people'* published alongside this report on the CASE website). In particular, these reviews looked at the learning and other social outcomes generated by young people's engagement in culture and sport. Limitations of the evidence identified by these reviews meant that it was not possible to use the data generated by the reviews to model the long-term monetary benefits of learning and social outcomes. Given these limitations with the existing data, this section focuses solely on the monetary value of the long-term health gains associated with engagement in sport.

Method

Given the lack of a single source containing the data necessary to estimate the value of the long-term benefit of engagement in culture and sport, a model-based approach was adopted. This approach draws on accepted best practice, an approach recommended by the National Institute for Health and Clinical Excellence's (NICE).

Models were built to estimate the value of the health gain associated with engaging in different sports and for different-age groups. Separate models were built for the 10 most frequently engaged-in sports according to the *Taking Part* survey. Each of these models was run separately for the following age cohorts: 11-15; 16-29; 30-49; 50-65; and over 64 years old.

The first step in the model drew on epidemiological data to estimate the health impact of undertaking sport that involved different levels of intensity of physical activity at different ages. Based on the quality of the epidemiological data, the analysis focused on the following health outcomes: CHD, colon cancer, stroke, and type II diabetes.

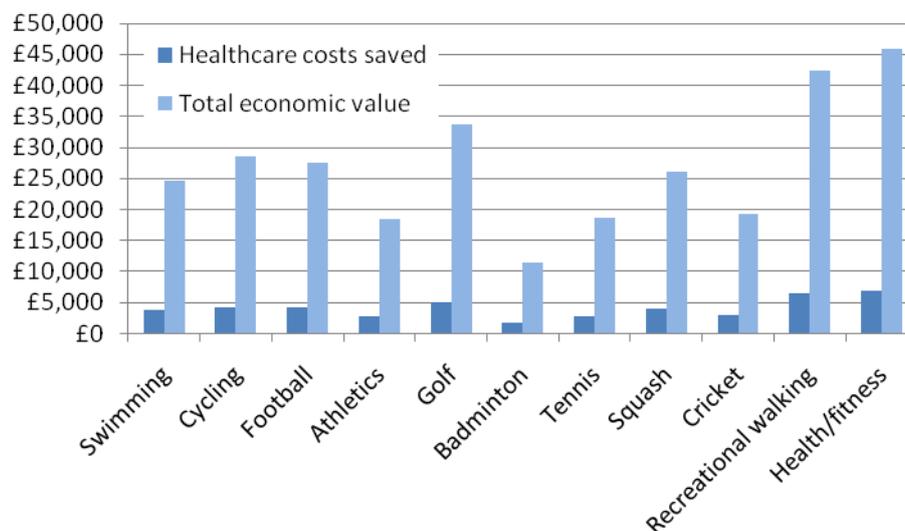
The second step in the model valued these changes in health generated by doing sport. Two types of value were included in the model: the health care cost of treating the health states; and the improvement in health-related quality of life.

More detail on the modelling method employed is available in the technical paper that accompanies this report.

Results

Figure 7 shows the economic value associated with doing different types of sport in the age range 30-49 years old, compared with not doing sport². It shows the healthcare cost savings and the overall economic value (health care costs saved and improved health-related quality of life³) generated by doing sport. It demonstrates that the healthcare cost saving generated by doing sport varies between £1,750 per person (badminton) and £6,900 per person (health and fitness), and that the total economic value generated by doing sport varies between £11,400 per person (badminton) and £45,800 per person (health and fitness). The variation in value is a result of two factors: the intensity level of the activity, and the duration and frequency with which a sport is undertaken.

Figure 7: The economic value generated by doing sport at 30-49 years old, compared with not doing sport



Discussion

The objective of this section was to estimate the value of the longer-term health benefits generated by engagement in sport. It demonstrates that a number of sports generate

² The results for the value of sport at other ages are available in the technical paper that accompanies this report.

³ Improvements in health-related quality of life were estimated in Quality Adjusted Life Years (QALYs), the metric employed by NICE. QALYs gained as a result of doing sport were valued at £20,000 per QALY, the lower end of the range of QALY values implicit in NICE's decision making process.

substantial long-term economic value in terms of avoided health costs and improved health-related quality of life.

A number of caveats are necessary, however, before the results are applied to policy evaluation. First, the benefits included in the analysis are particularly relevant from a health policy perspective, while the costs of encouraging engagement in sport will most likely be borne by a number of other departments. Understanding the distribution of costs and benefits is important in order to facilitate informed policy discussion.

Second, the benefits captured in the analysis will be experienced in the long-term, while policy perspectives might dictate a shorter-term perspective is necessary to justify investment. Further work is required to assess the exact timing of the benefits associated with playing sport.

The work also points to a number of important research projects that will help inform policy. In particular, the work focused only on the health gain associated with doing sport. There are a range of other outcomes associated with engagement in culture and sport that were not included in the analysis because of limitations in the data available to construct the model necessary for this analysis. Further research should focus on analysing existing survey data to assess the effect of engagement in culture and sport on longer-term effects, such as improved learning and community cohesion.

6. Summary and conclusion

The objective of this report is to address the question: What is the economic value of engaging in sport and culture? This question is important as there are a number of reasons why the market fails to efficiently provide the benefits of engagement. In this instance, government intervention to increase engagement is justified, but policy makers need to decide how much to spend to increase the level of engagement in culture and sport. Despite the importance of this question to policy making, a review of the current economic literature identified a paucity of evidence on the economic value of engagement.

This report presented two innovative modelling approaches to overcome the gaps in the literature. First, an analysis of the impact of engagement on SWB was undertaken to estimate the short-term private value of engagement. Second, a decision modelling exercise was undertaken to estimate the long-term health benefits associated with doing sport.

The results of these analyses can be employed to estimate the relative value of policy options. For instance, the relative value of investing in healthcare and investing in increasing the number of people doing sport requires that the effect on health outcomes of each of these policy options is understood.

The research reported in this report represents an important and innovative development in our understanding of the economic value of engaging in culture and sport. It should be considered as an initial attempt to estimate such economic values. However, it also identifies

a number of important research developments that are required to understand fully the economic value of engagement, including:

1. More measures of engagement should be included in national longitudinal surveys, such as the *British Household Panel Survey (BHPS)*. The inclusion of such measures in the successor to the *BHPS*, Understanding Society, will ensure such data is available in the future.
2. Further research is required on the relationship between income and SWB.
3. Further research is required into the effects of engagement in culture and sport on outcomes such as community cohesion and learning.
4. Further research is required on the relative value of engagement for different sub-groups. For instance, is the value of engagement the same for those in disadvantaged and non-disadvantaged groups?

In summary, this report has demonstrated the potential of a number of modelling approaches to valuing engagement in culture and sport. These approaches have the advantages over traditional economic valuation techniques, as they do not require the same level of resource as primary research. It is, therefore, possible to provide policy makers with information within a shorter timescale. However, further methodological development is required before some of these methods, in particular the SWB approach, is able to generate policy relevant results.

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