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Defining and measuring subjective well-being for sport policy

Stefano Testoni^a, Louise Mansfield^b and Paul Dolan^a

^aDepartment of Psychological and Behavioural Science, London School of Economics and Political Science, London; ^bDepartment of Life Sciences, Brunel University London, Middlesex

ABSTRACT

This paper makes the case for assessing the value of sport based on people's reports of subjective well-being (SWB), i.e. how they feel. We compare SWB to conventional definitions of well-being. We discuss how SWB is measured, distinguishing between evaluations (e.g. life-satisfaction) and experiences (feelings held moment to moment). We then consider evidence on the impact of sport on both evaluations and experiences of SWB, showing that the two give rise to different insights. We argue that measures that focus on how people feel as they go about their lives are better suited to account for the value of sport. We conclude by encouraging the measurement of experiences of SWB in sport policy.

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Sport policy; subjective well-being; measuring wellbeing

Introduction

The question 'Is sport good for people?' is a basic one in sport policy. Most frequently, academics and practitioners view sport as a means for attaining objectives in social, economic and foreign policy agendas. From this standpoint, the value of sport resides in its perceived capacity to promote outcomes like health (Mansfield 2016), social inclusion (Collins 2014), employment (Allen *et al.* 2013), leisure (Tomlinson 2005), tourism (Weed and Bull 2012), urban generation (Coaffee 2008), millennium development goals (Kay and Duffield 2013) and diplomacy in international relations (Beacon 2012). We commonly think that everyone benefits from these outcomes, and so we assume that sport cannot help but enhance individual and social well-being. In fact, though, this is not at all granted because not everyone equally appreciates the sport and what it brings about. We should refrain from sponsoring sport interventions haphazardly, based on the conviction that sport must be good for all to the same degree.

We may, therefore, consider whether and why people actually want to get involved in sport. This is a more democratic approach for gauging the value of it, since it takes account of people's preferences. Accordingly, sport policy has often been shaped by people's willingness to pay to, for example, do sport or physical activity (Fujiwara *et al.* 2014), enrol in sport programmes (Johnson *et al.* 2007), build new sport facilities (Johnson and Whitehead 2000), host sport events (Atkinson *et al.* 2008), attend or viewing sport games (Pawlowski and Budzinski 2013) or pursue national success in international competitions (Wicker *et al.* 2012). If people say they want sport or choose it over other things, they are probably better off with than without it – or so we assume. Yet, whilst we all agree that people should always have their say, we ought not to place too much confidence in their preferences to assess the value of sport. People are often inconsistent and uninformed when they express what they want, whereby their preferences do not necessarily reflect the degree to which sport (or anything else) truly matters to them.

CONTACT Louise Mansfield  louise.mansfield@brunel.ac.uk  Department of Life Sciences, Brunel University London, Kingston Lane, Uxbridge, Middlesex UB 8 3PH

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Experts and the public's own judgements have always guided policy decisions in the sport sector, and continue to do so nowadays. Neither gathers the value of sport adequately, however, and so they may lead to interventions that do not improve people's well-being as much as they could – if not having an adverse impact on it. A paradigm shift in the way we appraise the value of sport is urged in order to develop more effective interventions.

Answers to questions of value go hand in hand with how we define well-being. The change we need must then come from a different slant from which to look at well-being; one that goes beyond what experts or people themselves *think* of as good or bad, and that instead prioritises what people *experience* as good or bad. This perspective puts emphasis on people's subjective well-being (SWB) – namely, on their feelings and mental states as subjectively experienced. On this account, people's feelings become, in effect, the prime arbiters of value: an outcome is deemed good insofar as it makes people feel well for a long time.

SWB is a relatively new approach to the assessment of individual and social well-being. With its focus on people's feelings and on how these change over time, it circumvents many of the problems associated with approaches based on practitioners and people's value judgements. While SWB is becoming increasingly popular as an account of well-being in many fields of research and policy and has received some recent attention in studies of sport (see, for example, Downward and Rasciute 2011, Dolan *et al.* 2014), it still lacks sufficient consideration in sport policy at present. With this paper, we thus aim to discuss the notion of SWB in general, and in the context of sport in particular, with a view to inform scholars and policymakers about this alternative and, we believe, more effective approach for assessing value, including that relating to sport. Here we refer to evaluating the value of both active (e.g. playing) and passive (e.g. spectating) participation in sport. Our contention is that, when designing and appraising sport interventions, policymakers should focus on how sport makes people feel, rather than on what experts or people themselves think the benefits of sport amount to.

We begin this paper with an overview of how well-being can be conceptualised, pointing out the strengths of the SWB approach relative to alternative accounts. We then examine how SWB can be measured, making a distinction between evaluations of SWB (e.g. life-satisfaction) and experiences of SWB (feelings held moment to moment). We will argue that experiential measures are in general better suited to capture how people feel, and consequently to assess the value of sport. We then review the current state of knowledge on the impact of sport on SWB, showing how the insights we gain differ according to the measure of SWB used. In conclusion, we argue for a sustained focus on experiences of SWB in sport policy.

Conceptualising well-being

Above we have implicitly referred to the three most accepted perspectives on well-being in philosophy and social science: objective lists, preference satisfaction, and mental states (Parfit 1984). It is worth talking about each in more detail, so as to better appreciate how the value of sport relates to each perspective, and why we argue for a focus on SWB in sport policy.

Objective-list accounts maintain that there are fundamental needs that all people must fulfil in order to thrive. These 'objective' needs are closely related to Sen's (2001) concept of capabilities – the set of conditions that allow each person to flourish. From the objective-list perspective, then, the value of an outcome ensues from its ability to satisfy needs that are reputed to be universally good; the more of these needs are satisfied, the higher the value of the outcome. This account has inspired public and social policy for decades (Dean 2009). The United Nations, for example, calculate the Human Development Index from measures of life-expectancy, education and income per capita, for the dominant viewpoint goes that we all benefit from living for long, being well-educated, and earning ever more. In many ways, objective-list accounts have been predominant in sport policy as well (Houlihan 2014). Endorsing sport interventions on the grounds that sport promotes health, social inclusion and employment, for example, presupposes that every individual

should be healthy, socially integrated and involved in the labour force. On this view, the value of sport amounts to the health, social, and economic benefits it engenders.

There are many problems with objective-list viewpoints, though. Besides the absence of consensus on what counts as 'objective' need, the main issue lies in the very presumption to characterise well-being objectively. Objective-lists are effectively a one-size-for-all approach, unable to account for any interpersonal differences in values. Very few arguably want to die young, be completely illiterate or live in poverty, and most people do well out of getting a little fit, socially integrated, or being employed. Yet everyone sets different targets of how healthy, wealthy, educated, socially integrated, etc., they want to be, and reaching for ever-increasing standards therein could cause more harm than good to many. By the same token, different people will have different amounts of 'just enough' sport; if we do not keep this in mind, we may end up deteriorating well-being through sport, not improving it.

Preference satisfaction is associated with conventional accounts of well-being in economics. Economists assume that people have well-defined preferences over alternative outcomes, which specify the degree to which they consider them good or bad. The value of an outcome is thus a matter of whether and how much people want it. Also, this account has historically been highly influential at the policy level, in various sectors. The design of interventions is often informed by the choices people make in real or hypothetical situations, under the assumption that people always choose what they want – that is, preferences are 'revealed' by choices (Samuelson 1948). Willingness to pay, used as a proxy for preferences, is one of the most common approaches for quantifying the benefits of policy interventions. Moreover, because the theory posits that more income allows people to satisfy more of their preferences (costs held constant), measures of GDP have been used to monitor social progress for eighty years or so. Such economic approaches to valuing sport are widespread in sport research and policy as well (Leeds and Von Allmen 2016). The value of, for instance, taking part in sport programmes, having new facilities built in the local area or hosting sport events is thus reflected by people's choices in regard – or, equivalently, by the amount of money they are willing to pay for them.

Preference satisfaction acknowledges that different people may have different values, thus addressing the main limitation of objective-list perspectives. Relying solely on it has problems, though. The main one is that we can observe choices but not preferences, which undermines our understanding of whether people are getting what they want. The assumption that choices reveal preferences is often wrong, because people may not possess the right information to make the best decision (Harsanyi 1996). In particular, people have trouble foreseeing all the implications of their present choices for their future well-being (Wilson and Gilbert 2003) and are influenced by a host of psychological phenomena that cause flaws in their decision-making (Dolan *et al.* 2010). A further complication resides in the fact that preferences change depending on the context of choice (Kahneman and Tversky 2000). If preferences are so prone to error and incoherence, we can never be sure that what people reveal or state they want remain invariant over time, and hence that they be accomplishing the outcomes that are good for them. This applies no less to sport policy: choices about sport and willingness to pay for it may be ill-versed and volatile, whence it becomes hard to establish whether the sport will improve well-being as desired.

The mental-state account, or SWB, describes well-being as feeling well. From this standpoint, values are solely determined on the grounds of how people feel: that is, any outcome has value only insofar as it makes people feel well. Feeling well is not only a matter of having positive feelings but also of holding them for a long time (Kahneman *et al.* 1997). There are different varieties of mental states, which are normally classified as either hedonic (e.g. happiness, anxiety) or eudaemonic (e.g. worthwhileness, boredom), both of which are an integral part of the subjective experience. Dolan (2014) coined the expression 'sentimental hedonism' to designate the notion of SWB combining both hedonic and eudaemonic aspects, using 'pleasure' and 'purpose' to designate each. The SWB account is still relatively unexplored at the policy level, but it is attracting rising interest, especially for monitoring purposes. Since 2012, the United Nations have been publishing

the World Happiness Report, which discusses trends of SWB in member States. Many countries have now begun to measure SWB alongside GDP to track social progress. In the UK, the Measuring National Well-being programme at the Office for National Statistics (ONS) was launched in 2011 with this intent. The UK is also a pioneer for adding the SWB approach to official guidelines for policy appraisal (see Fujiwara and Campbell 2011).

The advantages of SWB over the other accounts of well-being have been discussed at length elsewhere.¹ In a nutshell, SWB retains the democratic aspect of letting people decide what is good for them, in the wake of preference satisfaction. At the same time, though, it does not stand on the assumption that people display and behave as according to a well-defined system of preferences. Mental-state accounts of well-being do not require that people know what they want and be informed decision-makers, because it shifts attention from their choices and circumstances to the *consequences* of their choices and circumstances for how they feel. The value of an outcome, moreover, is not regarded as fixed once and for all, but as varying according to how the outcome makes people feel over time. We thus need not worry about whether people are mistaken or incoherent in what they think is good for themselves, because we are focusing on what they experience as good for themselves. From the SWB perspective, the value of sport can thus be gauged by the effect sport has on people's feelings over time. Such an effect should be the arbiter of how best to intervene in order to enhance well-being through sport.

In sum, our point is that, of all accounts of well-being, only SWB can encapsulate whether and how much sport (or anything else) really matters to people. Sceptics may point out the lack of objectivity in assessing people's feelings (e.g. Adler 2012, Bernheim 2009). Indeed, SWB is not observed directly; it can only be measured by asking people to report on how well they feel on an arbitrarily chosen scale (e.g. from 0 to 10). The only observable is thus a self-report of SWB. To this objection, though, we retort that the very way we live our lives and what we value in it are subjective, and what makes life good or bad is precisely the subjective character of our experiences. We should be embracing subjectivity and attempt to capture it, not opposing or denigrating it. If subjectivity were so problematic, moreover, we would certainly not trust self-reports of health that often feed into 'objective' measures thereof. A more substantive challenge for SWB instead resides in how best to measure it, as we now turn to discuss.

Measuring SWB

Most issues concerning the measurement of SWB revolve around the distinction between evaluations and experiences.² The difference, in brief, inheres in that evaluations of SWB may be regarded as representing how people think they feel overall, whereas experiences of SWB as accounting for how people feel moment to moment, as they go about their lives.

More specifically, evaluations of SWB consist of people's self-assessments about how well they feel overall or how well their lives are going in general. Measuring evaluations of SWB thus involves asking people to provide this kind of global judgements. A canonical example of evaluative measure is life-satisfaction, which has been widely studied in SWB research, especially among economists.³ Self-reports of life-satisfaction answer questions along the lines of '*Overall, how satisfied are you with your life nowadays?*' – where the word 'overall' and the reference to life as a whole embody the evaluative character of this measure. Other examples of evaluative measures include general happiness, which is elicited by questions like '*How happy are you these days, all things considered?*' (Waldron 2010), and life-worthwhileness, which can be assessed by asking '*How worthwhile is your life overall?*' (Ryff and Keyes 1995).

Experiences of SWB, in contrast, encompass the feelings people hold in consequence of what they do and pay attention to moment to moment. This is the 'pure' mental-state view of well-being, because in theory, it captures the intensity and the duration of every single feeling people have over time – what Dolan (2014) referred to as 'the flow of pleasure and purpose'. Measuring experiences of SWB demands repeatedly assessing how people feel throughout some stated period

of time, so as to keep track of the flow of feelings in as much detail as possible. Prototypical questions used to obtain experiential measures may be '*How happy do you feel right now?*' or '*How much purpose do you feel right now?*' – where 'right now' highlights how these measures take a snapshot of how people feel in the moment.

Not all measures of SWB are evaluative or experiential in a strict sense. Between these two extremes, there is a range of measures that share features with both evaluative and experiential ones (Dolan and Kudrna 2016). These 'hybrid' indicators of SWB tap into the flow of feelings to some degree, but they nonetheless require people to make a summary appraisal about it. An example question used to acquire hybrid measures of SWB may be '*How happy did you feel yesterday?*' – which directs respondents' attention to the experiences they had the previous day, while also compelling them to an overarching evaluation thereof. Many of the measures that have been used in psychology and clinical research to appraise SWB fall into the category of hybrid measures.⁴

At present, evaluative (and hybrid) measures have received much more consideration in research and policy. The reason is that evaluations are much easier and cheaper to procure than experiences. Indeed, evaluative measures lend themselves to be collected in large-scale national and international surveys. The World Happiness Report, for instance, considers a measure of SWB similar to life-satisfaction collected via the Gallup World Poll.⁵ In the UK, the ONS keeps track of life-satisfaction, worthwhileness in life, and overall levels of happiness and anxiety felt the previous day – the so-called 'ONS4' (Dolan *et al.* 2011).

Surveying experiences is not as straightforward since it requires looking into how people feel as they keep at doing their daily activities. There are however various techniques in use, which, besides asking people to report on their current feelings, also involve an assessment of how they are spending their time, so as to take account of the basic context surrounding the experience. One of the first techniques ever proposed was the ecological momentary assessment (EMA; Stone *et al.* 1999), which entails getting people to report what they are doing and how they are feeling at random moments in the day. Kahneman *et al.* (2004) instead ideated the day reconstruction method (DRM), which requires people to hark back through what they did the day before, dividing this into episodes and reporting how they felt during each episode. Surveys on people's experiences of SWB allow understanding of how people feel depending on how they spend their time. White and Dolan (2009), for instance, were able to rank the activities German people engage in during their daily lives based on the associated ratings of pleasure and purpose.

Evaluations may be comparatively more practical to elicit, but experiences are what life is truly about. People experience their lives always, but they only evaluate it sometimes (Haybron 2008). Building on recommendations made by Dolan (2014), Kahneman and Riis (2005), and the US National Academy of Sciences (2014), among others, we ought not to leave experiential measures out of the picture when measuring SWB. This heads-up bears even more significance, considering that evaluations and experiences generally give rise to different insights into who feels well and who does not. For instance, life-satisfaction steadily improves with income, but experiences of pleasure and purpose are similar across income groups (Kahneman and Deaton 2010).⁶

A number of reasons underlie the divergent findings emerging from evaluative as opposed to experiential measures. People cannot possibly envision the entire flow of their experiences when pondering about how they feel overall. For instance, they tend to neglect how long their past experiences lasted, with the consequence that the actual time they have felt well or badly will not transpire in their evaluations (e.g. Kahneman *et al.* 1993, Tadić *et al.* 2014). More generally, evaluations of SWB, like every instance of human judgement, are shaped by what comes to mind at the time the judgement is being made (Kahneman 2003). Therefore, only the experiences people are thinking about will feed into reports of life-satisfaction and measures alike. Because the context of the evaluation affects what comes to mind, even seemingly irrelevant factors, such as the recent performance of the national football team, have been shown to exert a powerful influence on evaluative measures (Schwarz and Strack 1999). Football is sacred – no doubt on

that – but how are we meant to rely on measures that are supposed to be global, and yet are so sensitive to contingent effects?

It is not surprising, then, that people's summary appraisals about the way they feel are not consonant with what they experience in the course of their lives. Evaluations of SWB are very much like preferences in this respect. No wonder why people tend to choose what they think will make them feel better (Benjamin *et al.* 2014), and why income is strongly correlated with evaluations but not as much with experiences. In sum, evaluations of SWB are closer to representing preference satisfaction than mental states. Insofar as we want to understand what really makes people feel well, however, we should investigate experiences of SWB.

Sport and SWB

How does sport make people feel? The answer depends on whether we measure SWB as an evaluation or as an experience. In fact, the case of sport aptly illustrates the different conclusions evaluative and experiential measures lead to. Notably, however, research on sport and SWB is still at its early stages, and much remains to be probed. In a recent systematic review focused on young and healthy adults, we found limited and selective evidence, concluding that there were large gaps in our knowledge on the effect of sport on SWB (Mansfield *et al.* 2017). Still, there is some evidence on the effect of *doing* sport or physical activity, which is important to consider. Below we briefly discuss such evidence. Our aim is not to provide an exhaustive survey of the literature, but to point out general trends.

Psychologists have extensively investigated how sport and physical activity change SWB, mostly studying hybrid measures of it with a large evaluative component (see footnote 4), and occasionally self-reports of life-satisfaction. The relevant research in this field consists of randomised controlled trials and qualitative analyses of sport interventions targeting both clinical and non-clinical populations. The evidence generally attests positive effects of sport on SWB over time, particularly in terms of reduced anxiety and symptoms of depression.⁷ Nevertheless, the effects are much more pronounced in clinical populations as opposed to healthy individuals. Netze *et al.* (2005), for instance, conducted a meta-analysis of studies on older adults without clinical conditions, and their findings pinpointed minimal gains in life-satisfaction in that population. From a review of the literature, Ströhle (2009) extrapolated that sport programmes successfully led to lower anxiety among individuals who initially exhibited anxiety disorders, whereas they had little impact on people without disorders.

Alongside psychological research, a relatively new literature has emerged in economics, exploring the link between playing sport and evaluations of SWB based on the cross-sectional analysis of large-scale survey data. A common finding recounted in this literature is that the people who report doing sport also report being more satisfied with their lives and happier in general, especially if they exercise on a weekly basis.⁸

Contrary to the evidence from psychology, though, the studies in the economics literature were observational and may, therefore, be regarded as only showing correlations. There are various econometric techniques for causal inference, and some have used them to estimate the effect of doing sport on evaluations of SWB from survey data (e.g. Rasciute and Downward 2010, Huang and Humphreys 2012, Dolan *et al.* 2014). Yet it would be naïve to expect that causality be rightly inferred and quantified only by analysing survey data (especially if the data at hand are cross-sectional), because engagement in sport and SWB are observed simultaneously, and because respondents are not 'randomly assigned' to sport. Besides, there is always the chance of biases due to measurement error (i.e. we do not correctly measure sport participation) or to latent variables (i.e. we do not observe variables mediating the relationship between sport and SWB). So far as we can tell from survey data, sport participation may be a proxy for better health, for example – given the nexus that exists between physical activity and health. Those who take part in sport may then report better evaluations of SWB simply because they are healthier, not really or

not only because they do sport. By the same token, those who play sport may be more socially integrated, wealthy, and more likely to be employed, and they might report better evaluations for these reasons, rather than for doing sport.

Further insight into the causal role of sport independent of health and of other outcomes related to the sport might be gained by performing longitudinal analysis on survey data. Longitudinal analysis entails investigating how a person's evaluations of SWB and his or her frequency of playing sport vary conjointly in time. Of course, we cannot expect that either longitudinal analysis return unbiased estimates of causality, but at least it deals with correlations within-person over time – in contrast to cross-sectional analysis, which only sheds light on correlations across people at some point in time. If sport participation and SWB rise together for the same people over time, we have more evidence to conclude that one causes the other, as opposed to when we merely observe that SWB is higher among those who play sport.

Yet our own research does not show that SWB rises over time parallel to increments in frequency of playing sport. We performed longitudinal analysis as part of a study on sport and SWB among young and healthy adults, using data from the British Household Panel Survey and from the UK Household Longitudinal Study (Dolan and Testoni 2017). While we replicated the positive association between sport and life-satisfaction at the cross-sectional level, we did not observe that changes in the frequency of sport participation over time were accompanied by changes in life-satisfaction. Our result is consistent with the minor effects of sport on evaluations of SWB that psychologists recorded in other samples of healthy individuals.

Although it requires further validation, the evidence so far available suggests that playing sport *per se* has little or no effect on evaluations of SWB; if anything, its effect leaks out indirectly, via the mediation of health and other outcomes sport helps to foster. Put differently, playing sport does have the potential to improve evaluations of SWB, but only insofar as it also enhances health, social inclusion, income, etc., – and clearly, only insofar as health, social inclusion, income, etc., affect evaluations of SWB. The effects observed in clinical samples presumably arise because people's initially poor health status improved after the sport intervention or because they built social capital during it; in turn, these changes led them into thinking they felt better on the whole. The correlations found in survey data are in contrast most plausibly due to the fact that sport participation picks up the positive correlations that exist between outcomes related to sport and evaluations of SWB.

What about the effect of doing sport or physical activity on experiences of SWB? Research in psychology documents how mood improves right after a session of exercise, and to similar extents in clinical and non-clinical samples.⁹ Because health and other by-products of the sport are unlikely to change substantively after a single experience of sport, this effect must have to do with the very act of playing sport. This claim is further corroborated by evidence from neuroscience, which informs us that, during physical activity, the brain releases endorphins – hormones responsible for producing feelings of happiness and for contrasting anxiety.¹⁰

Surveys about people's day-to-day experiences, conducted using techniques like EMA and DRM, also point out that people typically feel better while playing sport than during most of the activities they report engaging in. Time spent doing sport or exercising ranks close to the top of the list of reported activities as to intensity and duration of pleasurable feelings, usually being preceded only by having intimate relations and socialising with others.¹¹ The few studies that also examined experiences of purpose (White and Dolan 2009, Dolan and Testoni 2017) found that people also reported experiencing a greater sense of worthwhileness and meaning during sport.

As noted above, however, those who report doing sport are more likely to be healthier, wealthier, more socially integrated, etc., than those who do not, whereby they may experience more pleasure and purpose at any particular moment (not only when they do sport) for reasons other than sport. To find out whether this was the case, we also performed a longitudinal analysis of experience data as part of our study on young and healthy adults, using data from the American Time Use Survey (Dolan and Testoni 2017). Essentially, we looked at whether a person's

experiences of SWB changed as he or she moved to sport from other activities (and vice versa) in the course of the day.¹² Our findings demonstrated that transitions to the sport were associated with rising happiness, reduced stress, and a higher sense of meaning, whereas switching from sport to other activities was coupled with changes in those feelings in the opposite direction. This result, concurring with the evidence from psychological and neuroscience research, makes a strong case for the role of sport in causing better experiences of SWB, independently of health and other outcomes.

We conclude that playing sport makes people feel good – in fact, better than most of the activities they engage in. In truth, though, there is significant incongruence across evaluative and experiential measures of SWB. Based on the evaluations, we would reckon that doing sport has at best instrumental value. The intrinsic value of doing sport instead materialises in full when enquiring into experiences, sport being the cause of higher levels of pleasure and purpose for as long as people play it. It is not clear to date whether these effects spill over to subsequent experiences, in which case the value of playing a sport would not be limited to the time spent in it. It is also largely unknown how other sorts of activity connected with sport, such as attending sport events, affect SWB. These should be concerns for future research.

Conclusion

Health, social inclusion and the other outcomes sport engenders may be part of why the sport is good for people. People's preferences for sport should also be accounted for. Yet the ultimate guide to the value of sport comes from how it makes people feel. The message we wanted to convey in this paper is: sport has value only insofar as it has a positive impact on SWB, and in particular on the way people feel moment to moment throughout their lives. Ours is an invitation to shift attention to the subjective experience of sport when assessing the value of it. This SWB-based approach to well-being is becoming increasingly appealing at the policy level, and the sport sector should follow suit.

How can SWB be incorporated in sport policymaking? A detailed set of guidelines is beyond the scope of this paper; besides, there is still much work in progress on the matter, as more generally in theoretical and empirical research on SWB. Fujiwara and Campbell (2011) set out preliminary guidelines for the UK Treasury (and we exhort interested readers to consult it), with a narrow focus on life-satisfaction. Most recently the updated UK HM Treasury Green Book (2018) includes specific reference to the importance of subjective well-being approaches in making policy decisions. Still, specific guidelines on experiential measures of SWB are yet to come.

For now, we simply recommend that policymakers in the sport sector start using evidence on how sport impacts upon how people feel moment to moment to design and appraise interventions. The evidence may come from EMA or DRM studies on how people feel during activities connected with sport or from relevant trials with rigorous process evaluations or high quality mixed methods study designs that include outcome measures of SWB pre, during, and post sport. The estimated change in SWB can be taken as a proxy for the benefits of interventions, which is then to compare with the SWB benefits of alternative policy decisions. Even after an intervention has been implemented, though, SWB should be monitored on a regular basis in order to assess whether it is actually improving as much as desired and over sufficiently long periods of time.

If we know what works for SWB in the sport sector, we can set more relevant policy goals and develop more successful interventions. In the UK, SWB is beginning to become embedded in sport policy. The current national sport strategy includes SWB among the outcomes sport should help to bolster (DCMS 2015, Sport England 2016). The What Works Centre for Wellbeing (2015) has emphasised the need to build evidence on sport and SWB to inform policy decisions and improve peoples' lives. While the national agenda for conceptualising and measuring SWB is recognised in some local sport and physical activity strategies, it still remains at the very margins of service delivery and sport research endeavours. We hope to see many more initiatives proliferating, in the UK and elsewhere. This is our call to arms for a more effective sport policy.

Notes

1. See, among others: Diener *et al.* (2015); Dolan and Kahneman (2008); Dolan and Peasgood (2008); Dolan and White (2007); Donovan and Halpern (2002); Kahneman and Krueger (2006); Kahneman and Sugden (2005); Kahneman *et al.* (1999); Layard (2011); O'Donnell *et al.* (2014); Oishi *et al.* (2014); Stiglitz *et al.* (2009); National Academy of Sciences (2014); Waldron (2010).
2. This distinction is presented and discussed by Dolan (2014), Dolan and Kudrna (2016), Dolan *et al.* (2011), Kahneman and Krueger (2006), Kahneman and Riis (2005), Krueger and Stone (2014), Krueger *et al.* (2009b), Robinson and Clore (2002), National Academy of Sciences (2014). Diener (2000) made a conceptually equivalent distinction between cognitive and affective SWB.
3. Some examples in the economics literature include: Alesina *et al.* (2004); Blanchflower and Oswald (2008); Clark *et al.* (2008); Frey and Stutzer (2002); Layard (2011); Van Praag and Ferrer-i-Carbonell (2004).
4. Some examples include: the Affect Balance Scale (Bradburn 1969), the Centre for Epidemiologic Studies Depression Scale (Radloff 1977), the General Health Questionnaire (Goldberg 1978), and the Positive and Negative Affect Scale (Watson *et al.* 1988).
5. This is Cantril's (1965) 'ladder of life', which is based on how high people place themselves on a hypothetical scale representing how well their life is going.
6. For evidence and discussions on such differences, see: Dolan (2014); Dolan and Kudrna (2016); Kahneman and Krueger (2006); Knabe *et al.* (2010); Krueger *et al.* (2009b); Luhmann *et al.* (2012); Oishi *et al.* (2014).
7. For surveys and meta-analyses of the literature, see: Arent *et al.* (2000); Berger and Motl (2000); Dunn *et al.* (2001); McAuley and Rudolph (1995); Netz *et al.* (2005); Penedo and Dahn (2005); Salmon (2001); Ströhle (2009).
8. Associations with general happiness or life-satisfaction were documented in Canada (Wang *et al.* 2012), in Germany (Becchetti *et al.* 2008), in Korea (Lee and Park 2010), in the Netherlands (Stubbe *et al.* 2007), in Sweden (Melin *et al.* 2003), in the UK (Rasciute and Downward 2010, Downward and Rasciute 2011, Fujiwara *et al.* 2014, Wheatley and Bickerton 2017), in the USA (Huang and Humphreys 2012), and in international samples (Dolan *et al.* 2014, Dolan & Testoni, forthcoming; Kavetsos 2011, Richards *et al.* 2015).
9. For example: Ekkekakis and Petruzzello (1999); McAuley *et al.* (1999); Netz and Lidor (2003); Szabo (2003); Yeung (1996).
10. For example: Chaouoff (1997); Cox (1998); Dishman and O'Connor (2009); Dinas *et al.* (2011); Fichna *et al.* (2007); Hoffmann (1997).
11. There is evidence from France (Krueger *et al.* 2009a), from Germany (White and Dolan 2009, Kanning and Schlicht 2010, Knabe *et al.* 2010), from the UK (Fujiwara and MacKerron 2015, Bryson and MacKerron 2017), from the USA (Kahneman *et al.* 2004; Krueger *et al.*, 2009b), and from international samples (Dolan and Testoni 2017, Lathia *et al.* 2017).
12. See also Krueger *et al.* (2009b) for a similar study.

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