

## **Measuring well-being in policy: issues and applications**

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# Executive summary

## Introduction

This report was written by Sam Thompson and Nic Marks of the centre for well-being at **nef** (the new economics foundation). It was commissioned by the Foresight Project on Mental Capital and Well-being.

We consider approaches to measuring well-being from the perspective of their utility for policy-making. We focus on subjective indicators and consider a number of relevant issues, including: philosophical debate around the role of government in promoting well-being; using well-being indicators as leading or lagging indicators; different approaches to well-being across the life course; and technical limitations of subjective indicators. Our report concludes with a summary of recent exploratory work on well-being for local government.

## Well-being in current policy

Under a reasonably broad definition, well-being has been the subject of considerable recent discussion in policy circles. Examples include:

- The Local Government Act (2000) requiring each local authority to prepare a Community Strategy, outlining how it would promote economic, social and environmental well-being.
- *Every Child Matters* – a national framework for coordinating and orienting the provision of children’s services.
- *Opportunity Age* – a national strategy for improving older people’s well-being.
- *Securing the Future* – the UK’s sustainable development strategy that has led to several research reviews on the concept of well-being and its relation to sustainability.

Dolan *et al.* reviewed a range of theoretical approaches to well-being drawn from different disciplines and outlined a taxonomy of well-being models in terms of their underlying conceptual approach: 1) preference satisfaction; 2) basic needs; 3) flourishing; 4) hedonic; and 5) evaluative.<sup>1</sup> Whilst it is tempting to see these different approaches as competing with one another, we argue that it is more helpful for policy-makers to view well-being itself as

a *dynamic process*, in which a person's external circumstances interact with their psychological resources to satisfy – to a greater or lesser extent – their psychological needs and to give rise to positive feelings of happiness and satisfaction.

### Applications of well-being measurement in policy

- *Political acceptability of well-being measures.* According to some traditions of thought – i.e. the liberal tradition – the 'happiness' of individuals is not the business of state and, hence, government should not be concerned with measuring well-being. Contemporary worries about 'paternalism', the 'nanny state' and a 'big brother society' can be seen as manifestations of this debate. Citizens of the UK, however, expect government to promote their interests; for instance, there is consistent support for the welfare state, the NHS and for government interventions to protect the environment and to relieve poverty. Hence, it is argued that using well-being indicators in policy is consistent with these expectations.
- *Means and ends/leads and lags.* For any given outcome, it is usually possible to distinguish between the *means* through which the outcome is achieved, and the actual *end* result. It is intuitive to think of well-being only as an end or outcome of policy, but in some contexts it may be appropriate to think of it as a *means* or a *driver* of other desirable/policy-relevant outcomes.
- *Applicability of different approaches across the life course.* Most theoretical models of well-being are intended to apply generally to people of all ages. As there is no one 'correct' model of well-being, however, the question arises as to whether different elements of well-being are differentially more or less important at different stages of life. To date, there is little evidence to guide decisions about which kind of model is appropriate for which age group.

### Technical considerations

- *Boundedness.* Most subjective well-being indicators require people to evaluate some aspect of their experience on a scale with an upper and a lower limit. By definition, such scales impose a minimum and maximum value on whatever dimension is being evaluated. This can be a problem for tracking changes over time. For many policy purposes, however, it does not pose a significant limitation on the use of subjective indicators.
- *Set-points and adaptation.* Psychologists have suggested that individuals have a 'set-point' for subjective well-being to which they will tend to default, even as their life circumstances may vary and temporarily push their well-being up or down. 'Adaptation' to changes in circumstances is not always total, but the effect is powerful enough that caution must be exercised when considering changes in well-being over time.

- *Status effects.* A person's relative status – inferred through socio-economic variables such as income – can have a notable impact on his/her subjective well-being. Currently, not enough is known about *whom* people compare themselves with as to enable status effects to be easily controlled for.

## SWOT analysis

**nef** hosted a workshop with policy-makers from across government. The core of this workshop was a SWOT –Strengths, Weaknesses, Opportunities, Threats – analysis of issues surrounding the use of well-being indicators in policy. In the negative side, an important issue was clarity, in relation both to the distinction between well-being and happiness, and also to measurement and communication. On the positive side, it was noted that well-being is an explicit part of policy discourse across a number of different areas, and also that it is a good fit with several emerging agendas that are not currently using the language of well-being.

## Choosing indicators for policy

Despite considerable and rapidly growing interest, indicators of subjective well-being have not been widely used in policy. Recent work by **nef** has begun to develop a framework to help local authorities approach the issue of choosing an appropriate well-being indicator. It outlines three broad approaches to well-being measurement that are of relevance to policy-makers:

1. *Universal.* Headline information about general well-being at a population level that can be used as a basis for more detailed exploration.
2. *Domain.* Information about understanding how people feel in relation to different aspects or dimensions of their lives; for example, health, community safety, economic circumstances.
3. *Targeted.* Rich information about the psychological well-being of people identified as vulnerable or in need of specialised services.

# Range and scope of this report

## Background

This report was written by Sam Thompson and Nic Marks of the centre for well-being at **nef** (the new economics foundation) and was commissioned by the Foresight Project on Mental Capital and Well-being. It forms part of the second phase of the project, in which Foresight is developing and analysing policy options to address key issues that will impact on UK society in the next 10–20 years.

## Aims and objectives

We consider approaches to measuring well-being from the perspective of their utility for policy-making. Our aim is to highlight how various different conceptions of well-being that have been proposed in the research literature can be useful at different points in the policy process.

We focus mainly on subjective indicators: that is, indicators in which individuals are asked to self-report on their own feelings and experiences. As such, we raise some philosophical issues relating to the limits of governments' rights to ask for, hold, and act upon information on individuals' subjective well-being. We consider a number of other relevant issues, including: using well-being indicators as leading or lagging indicators; performance vs contextual usage; applicability of different approaches to well-being across the life course; and technical characteristics of subjective indicators that need to be borne in mind for effective use. Our report concludes with a summary of ongoing recent work to develop a framework for applying well-being measurement in the context of local government policy.

## Scope

The literature pertaining to well-being and quality of life is extremely extensive and wide-ranging. In this report, we do not attempt to provide a comprehensive overview of the different theoretical models that have been proposed, nor do we strive to cover the full range of indicators that have been developed. However, we do give illustrative examples of the kinds of frameworks and indicators that might be appropriate for different policy purposes, along with some discussion of the practicalities of data collection

and analysis. We have included an accompanying spreadsheet which reviews a number of specific indicators according to their important characteristics.

# Well-being in current policy and discourse

Under a reasonably broad definition, well-being has been the subject of considerable recent discussion in policy circles. For instance:

- Economist and Labour Peer Richard Layard's book *Happiness*<sup>2</sup> received extensive publicity, as did his subsequent proposal to increase national well-being and decrease incapacity benefits claims through the enhanced provision of Cognitive Behavioural Therapy.<sup>3</sup>
- Conservative party leader David Cameron suggested that the Government should measure – and explicitly aim to increase – ‘gross national well-being’ alongside economic growth.<sup>4</sup> Subsequently, the party's Quality of Life Policy Group recommended that the Government should develop measures of well-being that ‘... relate subjective reports of well-being (such as life satisfaction) to objective measures of agreed indicators such as community cohesion, crime, and divorce rates’.<sup>5</sup>
- Research reports from organisations including the Prime Minister's Strategy Unit<sup>6</sup> and think-tanks such as **nef**<sup>7,8</sup> the Institute of Economic Affairs,<sup>9</sup> and the US-based Cato Institute<sup>10</sup> have explored the current state of knowledge about well-being and its implications for policy.

The term ‘well-being’ has also featured prominently in recent policy initiatives across a number of departments.

- The Local Government Act 2000 marked the introduction of the term ‘well-being’ to local government, along with a requirement for each local authority in England and Wales to prepare a Community Strategy, outlining how it would use its power to achieve better economic, social and environmental outcomes. More recently, the local government white paper *Strong and Prosperous Communities* outlines a move towards outcome measurement and citizen-focused services, with a particular focus on the place-shaping role of local government.<sup>11</sup> Accompanying this is the introduction of a new performance framework for local government, Comprehensive Area Assessment (CAA), and a new National Indicator Set from which targets will be agreed for each Local Area Agreement (LAA). Some indicators of subjective well-being are already included within the indicator set and the Audit Commission has recently funded work

that may lead to the development of a further set of policy-relevant well-being indicators that can supplement and expand on the existing indicators.<sup>12,13</sup>

- *Every Child Matters* (ECM) is a national framework for coordinating and orienting the provision of children's services. Based on the Green Paper of the same name, the ECM framework emphasises the need to place the well-being of children at the heart of service delivery, focusing on the needs of each child as a whole person.<sup>14</sup> In particular, it aims to focus on aspects of well-being that are important to children themselves, not just to the professionals who are involved in children's services.
- Alongside work taking place in a health and social care context, the Department of Work and Pensions has been leading the development of a national strategy for an ageing society, *Opportunity Age*.<sup>15</sup> This has involved exploring the concept of well-being in relation to older people and aims to promote the role of older people as full participants in society.
- Well-being in a health policy context is framed by the Department of Health's White Paper, *Choosing health: making healthy choices easier* launched in 2004, and the *Our health, our care, our say* White Paper. Within the field of mental health and well-being, the National Service Framework of 1999 and the more recent Commissioning Framework for Health and Well-being acknowledge that services to promote positive physical and mental health need to be commissioned and delivered alongside those to alleviate the symptoms of illness.
- As part of a commitment made in the 2005 sustainable development strategy *Securing the Future*, the *Whitehall Well-being Working Group* (W3G) has explored issues relating to well-being in a policy context. Three reports have since been published by Defra: one is a review of selected well-being indicators with consideration for their application to policy making;<sup>16</sup> the other two are complementary reviews of research relating well-being to sustainable development.

<sup>17,18</sup>

# Definitions and theoretical approaches

## Defining

A cursory glance at the range of policy initiatives referencing well-being illustrates what has often been regarded as a difficulty with the concept: namely, its very broad application. In the context of health discourse, for instance, well-being is often used as an umbrella term covering a range of positive health behaviours,<sup>19</sup> and is thus understood primarily as a state of good physical health that can be improved by engaging in particular behaviours. Those working in economic and social policy, meanwhile, have tended to use the term more or less interchangeably with ‘utility’ or ‘welfare’.<sup>20</sup> Typically, in this usage, a person’s well-being is synonymous with the extent to which they have access to various ‘goods’ – most obviously (although not limited to) economic resources, healthcare, family and community support, political freedom and so on.

More recently, some psychologists and social scientists have co-opted the term to refer exclusively to *subjective* aspects of life. Strongly influenced by the so-called ‘positive psychology movement’ within academic psychology, the new ‘science of well-being’ aims to determine the factors that cause a person to *feel* happy, satisfied, content and fulfilled with their life and aspects of it.<sup>21</sup> (In this view, external factors including physical health and material circumstances may play a role in determining whether a state of well-being will emerge, but they are not equivalent to it. Indeed, part of the research agenda has been concerned with attempting to identify just how much of the variability in subjective well-being can be attributed to external circumstances relative to factors such as personality, behaviour, attitudes and aspects of the early environment including genetic factors.<sup>22</sup>)

A strong sense of this diffusion of definitions can be gleaned from the UK Government’s ‘shared understanding’ of well-being. This was developed as part of the W3G work in fulfilment of the commitment to explore well-being in the UK’s Sustainable Development strategy, and was published in the 2007 sustainable development indicator set. Well-being is

*'a positive physical, social and mental state; it is not just the absence of pain, discomfort and incapacity. It requires that basic needs are met, that individuals have a sense of purpose, that they feel able to achieve important personal goals and participate in society. It is enhanced by conditions that include supportive personal relationships, strong and inclusive communities, good health, financial and personal security, rewarding employment, and a healthy and attractive environment.'*<sup>23</sup>

## Conceptualising

As part of the work commissioned by W3G, Dolan *et al.* reviewed a range of theoretical approaches to well-being drawn from different disciplines.<sup>24</sup> They propose a helpful taxonomy of well-being models in terms of their underlying conceptual approach, with five categories: 1) preference satisfaction; 2) basic needs;<sup>25</sup> 3) flourishing; 4) hedonic; and 5) evaluative.

### *Preference satisfaction*

In this view, the more that people are able to satisfy their individual wants and desires (preferences), the more their well-being will be increased. All else being equal, satisfaction of preferences is best achieved when people have the freedom to act as they wish, coupled with the resources that enable them to do so. This is the approach to well-being assumed by orthodox economic theory and which justifies the frequent use of income/GDP as a catch-all proxy for well-being at the individual or national level.

### *Basic needs*

Basic needs accounts are those that posit, *a priori*, some set of underlying conditions – for example, health, income, education, freedom, and so on – which are assumed to be necessary prerequisites for human well-being. Such accounts do not purport to measure well-being directly, but take it to be emergent so long as the specified conditions are in place. Needs theories are very often couched in terms of needs that can be measured objectively. Some, however, also incorporate psychological needs that require either subjective measures or the use of proxies.

### *Flourishing*

Flourishing accounts emphasise ways of living – literally 'living well' or living the 'good life' – in which people are able to reach their full potential. Different approaches identify well-being with characteristics of life such as, for instance, engagement, meaning, virtue, and authenticity. Flourishing accounts also often emphasise how the individual relates to things (e.g. people, tasks) in the world.

### *Hedonic*

These approaches identify well-being with a positive *affect balance* – that is, a relatively positive ratio of pleasant to unpleasant emotions, moods and

feelings. Hedonic approaches rely on subjective reports from individuals regarding the frequency and intensity of their felt emotions over a recent time period (usually somewhere between the last day and the last four weeks). It is important to emphasise that hedonic accounts do not typically claim that well-being would be highest if *all* negative affect were eliminated, only that there is an optimal balance.

### *Evaluative*

Finally, evaluative accounts are those that identify well-being with individuals' subjective appraisals of aspects of their life and how it is going. This might be as simple as a single question regarding satisfaction with life overall, or multiple questions about different aspects of their lives. The essential distinguishing feature of evaluative accounts, however, is that they attempt to capture 'judgements about feelings'" rather than feelings themselves.<sup>26</sup>

### Well-being as a dynamic process

#### *A new model*

The preference satisfaction model of well-being is, in a sense, not a model at all; it effectively relegates well-being to equivalence with the economic concept of utility, defined in terms of whatever people choose to do given the resources and constraints available to them and proxied for with economic measures. This is hardly helpful from the point of view of advancing a better understanding of quality of life, since there is ample evidence that: 1) what people choose is not a reliable predictor of what makes them happy;<sup>27</sup> 2) choice *per se* is not always positive;<sup>28</sup> and 3) economic indicators are only weak proxies for experienced well-being.<sup>29</sup>

As for the other approaches to conceptualising and measuring well-being outlined by Dolan *et al.*,<sup>30</sup> it is tempting to see them as being in competition with one another. It may, however, be more helpful to think of well-being itself not as a static construct but rather as a *dynamic process*. The various approaches can thus be seen as describing different aspects or stages of the process.

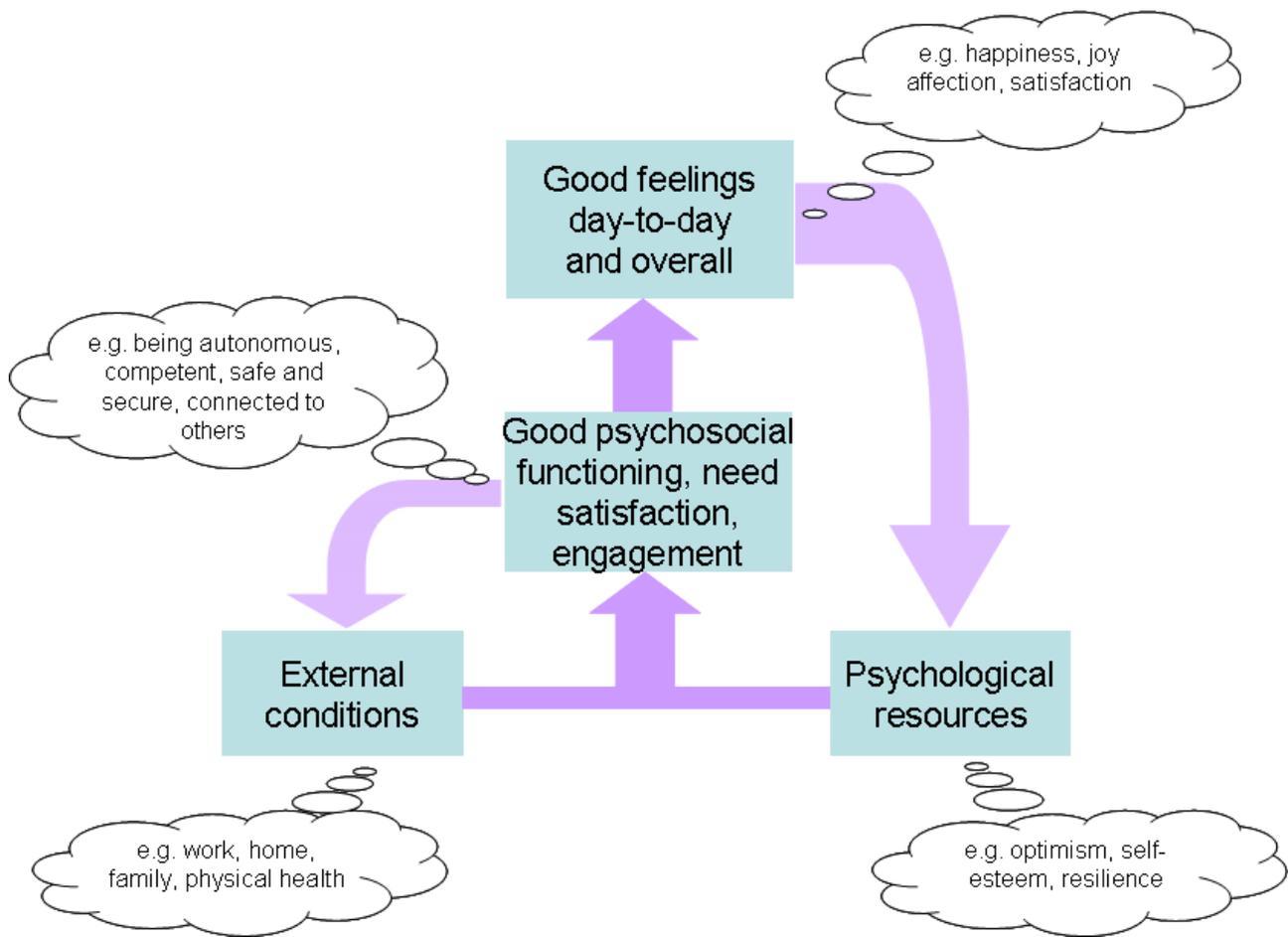
Figure 1 represents a combined model that attempts to describe this process. In this model, the different domains of an individual's life constitute the *external conditions*, which together provide a variety of challenges and opportunities. *Psychological resources*, meanwhile, are the relatively stable and invariant features of an individual's mental capacity – their personality, in the broad sense – that influence how they respond to and interact with the external world. Together, external conditions of life and psychological resources either support or detract from the fulfilment of needs – which are assumed to be general and non-domain specific – and thus lead to good functioning. A relatively positive affect balance and positive evaluations about life overall and/or specific aspects of life will be some of the outcomes of good functioning and need fulfilment.

To give a more concrete example, much research suggests that feeling close to, and valued by, other people is a fundamental human need and a defining characteristic of people who demonstrably function well in the world<sup>31</sup> The need for relatedness to others can be supported through various *external conditions* of a person's life: at work, through the respect and friendship of colleagues; at home, through the love and support of close family; and so on. Additionally, however, across all of these domains of life, a person who has the *psychological resources* of self-confidence and optimism may be more likely to make friends and to form relationships. Thus, the extent to which the need for relatedness to others is satisfied is likely to be a function of both external conditions and internal psychological resources. So long as the individual has a sufficient sense of relatedness, this will lead to more positive day-to-day feelings and to a general sense of satisfaction with how life is progressing.

There are theoretical reasons to posit numerous feedback loops at different levels of the process. For simplicity, however, Figure 1 shows just two which we regard as especially critical. The work of Fredrickson demonstrates that the experience of positive emotions actively broadens a person's capacity to adopt new patterns of thinking, and that over time this can lead to the enhancement of psychological resources.<sup>32,33</sup> Secondly, there is evidence that people who function well in the world are better able to shape and improve their external circumstances than are those who do not. Autonomy, for instance, is known to be an important determinant of health behaviours<sup>34,35</sup> and educational achievement.<sup>36</sup>

### *Indicators*

The attached spreadsheet contains summary reviews of a range of established well-being indicators. This is not intended to be comprehensive but rather illustrative of the kinds of indicators that exist. The column headed 'Category' attempts to categorise each indicator according to the schema in Figure 1.



**Figure 1:** A dynamic model of psychological well-being

# Using well-being measures in policy

In this section, we consider a range of important issues that will guide how models and indicators of well-being can be used to inform, shape and drive policy.

## Are subjective well-being indicators politically acceptable?

Subjective well-being measures all rely on reports from individuals about aspects of their ‘inner lives’ – their thoughts and feelings, emotions and motivations. Often, they are concerned with aspects of people’s lives that do not bear explicit relation to central or local government functions. To date, where subjective indicators have gained widespread acceptance it has been in relation to people’s views about aspects of service provision (e.g. ‘Please rate your satisfaction with your access to healthcare’) or else their feelings about aspects of society – crime, for instance – over which policy-makers might expect to have some direct influence. These kinds of questions, whilst still concerned with subjective opinions and feelings, are essentially outward-facing. It is easy to develop a theory of change about how, for instance, the presence of more police officers on the streets would lead to reduced subjective fear of crime.<sup>37</sup> By contrast, questions about happiness, satisfaction, personal growth and flourishing are inward-facing. There is evidence that these factors both influence and are influenced by how people behave in their day-to-day lives, including how they interact with government- and state-provided services. Nonetheless, it is harder to put forward a compelling hypothesis about how a policy intervention will improve subjective happiness than about how it will reduce subjective fear of crime.

The issue of well-being measurement in policy also cuts to the heart of an old but very much current debate about the proper role of the state. A long and influential line of reasoning in political theory, often described as Classical Liberalism, argues (broadly) that the state has no legitimate role in the affairs and choices of individuals beyond protecting their rights to private property and ensuring that they do not harm others by their actions. If people make decisions that worsen their own well-being and lead to less happiness, so be it; this is no business of the state. Liberty, not well-being, should be the fundamental goal of policy. A classic statement of this view is given by the father of the liberal tradition, JS Mill, who argued that a citizen:

*'cannot rightfully be compelled to do or forbear because it will be better for him to do so, because it will make him happier, because, in the opinion of others, to do so would be wise, or even right'.*<sup>38</sup>

However, even Mill acknowledged that:

*'the admitted functions of government embrace a much wider field than can easily be included within the ring-fence of any restrictive definition'.*<sup>39</sup>

Indeed, the purpose of government has increasingly been seen to lie in pursuing the interests of citizens where it can. Only the narrowest conception of 'interest' would limit this role to protection of property rights and prevention of harm; why, for instance, would governments take steps to pursue economic growth if their role were solely protective? A 'social contract' view of government would argue that the individual voluntarily cedes some of his/her individual liberty to the state by his/her agreement to abide by law and political authority. In fulfilment of its part of the social contract, the state both protects the rights of individuals *and* acts in his/her interests.

If these debates seem somewhat abstruse or arcane, contemporary worries about 'paternalism', the 'nanny state' and a 'big brother society' indicate that they still rumble on today. Although not representative, a glance at some of the press and media coverage of recent government interest measuring subjective well-being demonstrates the depth of feeling in some quarters. *Sunday Times* columnist Minette Marris commented:

*'The 'national happiness audit' would enable us to form and judge social policies .... This is without a doubt the scariest idea I have read for many years.'*<sup>40</sup>

Alexander Waugh, writing in *The Daily Telegraph* suggests that:

*'.. if any of these foppish utilitarian suggestions were put into practice, nothing short of national manic-depression would ensue.'*<sup>41</sup>

On the other hand, citizens of the UK (and other Western societies) expect that government will positively promote their interests. There is consistent and popular support for the welfare state, the NHS, government interventions to protect the environment and to relieve poverty and a host of other interventions that are manifestly based on a conception of interest that is concordant with well-being as understood in this report. Many people, for instance, argue that government has a proper role in resolving collective action problems,<sup>42</sup> by binding individuals and institutions into cooperative behaviours through legislation on planning, competition, pollution and more. Such moves rely on a conception of interest far broader than that of the classical liberal view, yet are not widely contested.<sup>43</sup>

Moreover, even in sheer practical terms, the 'big brother state' concerns are somewhat misplaced. No government could possibly collect and maintain information about the psychological well-being of every person in

the country; gathering indicative data from small, statistically representative and (if good ethical practice is followed) anonymous samples is the only realistic option.

In summary, it seems important for policy-makers to take seriously the concerns of the liberal tradition in the UK and not take as a given the popular acceptability of subjective well-being indicators. It also seems reasonable, however, to argue that using well-being indicators in policy is not a radical departure from current understandings of the role of the state, but rather a promising development that may enable it to perform its currently accepted role – promoting the interest of citizens – more effectively.

### Means and ends/leads and lags

For any given outcome, it is usually possible to distinguish between the *means* through which the outcome is achieved, and the actual *end* result.<sup>44</sup> Using a familiar example, if increasing the number of people who survive cancer is identified as a desirable end, reducing the time that people have to wait for appointments with oncologists might be regarded as one (of many) means toward that end.

In terms of the indicators that can be used to capture means and ends, a distinction is often drawn between 'lead' and 'lag' indicators.<sup>45</sup> Leading indicators function as drivers – that is, it is assumed that improving performance on a leading indicator will give rise to better outcomes. Lagging indicators, meanwhile, reflect the consequences of actions previously taken. To use the same example, average length of waiting time could be regarded as a lead indicator for the means identified (that is, reducing waiting time), whereas the percentage of people diagnosed with cancer who are still alive after five years might be an appropriate lag indicator for the identified end (that is, increasing the number of people who survive cancer). The underlying logic here is not that absolute waiting time is an important end in itself, but that striving to reduce it will involve making efficiency gains elsewhere, with the result that most people are seen by a specialist more quickly, increasing their probability of recovery.<sup>46</sup>

The means/ends and lead/lag distinctions invite the question: is well-being itself better thought of as a means or an end? And, in practical terms, are subjective well-being *indicators* of the kind discussed above and outlined in the attached spreadsheet better suited as leads or lags? Enhancing well-being is most often presented as an end in itself; Veenhoven, for instance, describes well-being (operationalised in terms of a long and happy life) as the 'ultimate end'.<sup>47</sup> Research suggests, however, that only a relatively small proportion of variability in subjective well-being is attributable to material and environmental circumstances – perhaps as little as 10 per cent,<sup>48</sup> with around 50 per cent due to trait factors (e.g. personality, genes, early environment) and the remaining 40 per cent due to 'intentional activities' (including behavioural choices, cognitive style and motivation). If these proportions are even roughly correct, and given the kinds of levers

policy-makers have at their disposal, thinking of subjective well-being only as a policy outcome could be akin to making a rod for one's own back. Most policies are geared towards improving the material situations in which people find themselves (i.e. economic policy, social welfare, healthcare) with relatively few attempting to influence how people actually spend their time and the choices they make (cf discussion of liberalism, above). If material circumstances account for only around 10 per cent of variation in subjective well-being, it may be that the impact of many policy decisions on well-being is likely to be vanishingly small.

Some evidence, however, suggests that targeting specific aspects of positive well-being (e.g. autonomy, affect balance) might be an effective way to *drive* desirable behaviour changes. For instance, a sense of individual autonomy – broadly, the extent to which people feel able to make their own decisions – has been put forward as a core requirement of well-being in at least two different theoretical models.<sup>49,50</sup> In a classic study by Langer and Rodin,<sup>51</sup> a simple intervention designed to increase feelings of autonomy in older people led to dramatic differences health outcomes.<sup>52</sup> Were this approach to be adopted in wider healthcare policy, it would seem appropriate to think of subjective well-being as the means through which better health outcomes are achieved. A subjective measure of autonomy would thus be an appropriate leading indicator.

In the final analysis, well-being – like physical health – is probably best thought of as a desirable end in itself *and* as a means for achieving other desirable outcomes. Exactly how and where well-being indicators are used is likely to be specific to the aims of the policy being considered.

### Contextual and performance indicators

Another commonly used distinction is that between indicators that are used to gauge the *performance* of a particular policy, and those that provide *contextual* information that informs strategic policy decisions. When an indicator is used as a performance measure, targets may be identified and the efficacy of a given intervention judged explicitly in terms of whether or not they have been reached. When an indicator is used contextually, no explicit targets are set and policy decisions are not oriented specifically towards showing movement on the indicator – rather, the information might be used to help understand and explain the reasons why a given intervention or policy achieves, or fails to achieve, its intended outcome. For instance, to return to the example used above, if the number of people who survive cancer were identified as a key performance indicator, a measure of public attitudes towards cancer amongst different age groups might serve as a useful contextual indicator that could help to understand variation in survival rates.

Establishing a target does not necessarily mean aiming to show a change – it may be that the most appropriate target is to maintain consistent performance on one indicator whilst showing changes on others. For instance, the UK Sustainable Development indicator set now includes

subjective life satisfaction as a headline indicator of well-being.<sup>53</sup> Currently, no target has been identified for the indicator and its function is purely contextual. One possibility is, however, that it could be used to ensure that policies aimed at achieving other sustainability targets (e.g. measures to reduce carbon emissions) do not cause aggregate well-being to decrease.

Moreover, contextual information on well-being can be used diagnostically. For example, NHS Dumfries and Galloway recently worked with **nef** to operationalise Max Neef's human needs model in the form of a survey tool.<sup>54</sup> Their intention was to use this tool to identify parts of the community where certain needs are not being met adequately, so as to better target subsequent service provision.

### Applicability of different approaches to well-being across the life course

Most theoretical models of well-being are intended to apply generally to people of all ages (perhaps excepting young children). However, to the extent that there is no one 'correct' model of well-being and, as we have argued above, the various approaches describe different parts of a dynamic process, the question arises as to whether different elements of well-being are differentially more or less important at different stages of life. For example, it may be that building psychological resources, such as optimism and self-esteem, is especially critical for younger people beginning to make their own way in the world, whereas good functioning in terms of social relationships and a sense of community belonging are relatively more important for older people.<sup>55</sup>

Given the range of different approaches that have been taken with regard to conceptualising and measuring well-being, it seems important to use the right one with the right people. However, although there is some evidence that overall satisfaction with life varies systematically over the life course,<sup>56,57</sup> and that the structural relationships between different elements of subjective well-being might vary between groups,<sup>58</sup> at present there is little evidence that might guide decisions about which kind of model is appropriate for which age group. For instance, the CASP-19 instrument was devised explicitly to measure older people's quality of life.<sup>59</sup> However, it is not altogether clear why the psychological needs model on which it is based – or, indeed, the instrument itself – would not be equally applicable to people of younger age.

A more prosaic, but no less important issue is ensuring that the wording and language of an indicator is applicable to people of different ages. Clearly, for instance, measurement instruments intended for adults may not always be readily understood by children.

# Technical considerations

In this section, we discuss three important technical considerations. These are likely to impact on how subjective well-being indicators are used in practice.

## Boundedness

Most subjective indicators of well-being use bounded scales – that is, they require people to rate or evaluate some aspect of their experience on a scale with an upper and a lower limit, for example 0 to 10, or 1 to 7. By definition, these scales impose a minimum and maximum value on whatever dimension is being evaluated. A bounded happiness scale implicitly assumes that people have a ‘maximum’ level of possible happiness and, moreover, that they have a good enough idea of what that level would feel like as to enable them to rate their current happiness relative to it.<sup>60</sup>

This raises two issues, conceptual and practical. Conceptually, the question is whether subjective well-being itself *is*, in fact, bounded or unbounded. There are some good psychological reasons for suspecting that most people’s well-being is bounded, although some would argue that these bounds are themselves malleable, given sufficiently drastic changes in external circumstances.<sup>61</sup> Empirically, however, the true boundedness or otherwise of subjective well-being is effectively untestable, because an *a priori* assumption one way or the other must be made in order for measurement to be achieved in the first place.

But if subjective well-being truly is unbounded, the practical problem of *ceiling effects* becomes important if the indicator is to be used as a measure of performance. For instance, authors such as Johns and Ormerod<sup>62</sup> and Wilkinson<sup>63</sup> have criticised the tendency of some writers on well-being to make longitudinal comparisons between bounded subjective scales and (notionally) unbounded scales, such as GDP or personal income. They argue that because bounded scales limit the amount of possible increase *by definition*, merely showing a disjunct between, say, the proportional rate of growth in GDP and that of aggregate subjective life satisfaction within a country (as was first done, famously, by Easterlin<sup>64</sup> and numerous others since) is not tantamount to demonstrating that well-being has failed to increase with economic growth. In other words, the functional

shape of the relationship could be wholly, or very largely, the artefact of a ceiling effect attributable to the scale boundary. This, they argue, renders such indicators of little use as performance targets.

In practice, however, this may be less of a problem than such commentators claim. First, there is evidence that (albeit outward-facing) subjective indicators based on bounded scales, such as social trust and fear of crime, have shown robust trends over time. In principle, there seems to be no reasons why inward-facing indicators should be different. Secondly, despite the criticism that has been levelled, there is little evidence from current surveys that a 'hard' ceiling effect (whereby a large proportion of respondents give ratings at the top of the scale) is actually a problem for subjective well-being indicators. In the UK, for instance, the mean score on an overall subjective life satisfaction 0–10 scale is around 7, apparently leaving plenty of room for improvement.<sup>65</sup> Thirdly, whilst there is a case for looking at long-term trends in well-being, the reality is that most well-being indicators will be used to provide information about relative differences between groups within a country, region or community. Here, bounded scales are not tracked against non-bounded variables but compared only against themselves. Evidence to-date shows that even relatively simple well-being measures, such as single-item subjective life satisfaction can provide useful information when used in this way. For instance, cross-sectional data from Defra's recent survey shows that people nearer the bottom of the socio-economic spectrum are less satisfied than those at the top.

A final reason for optimism about bounded scales is that, even if ceiling effects do occur, the *point* at which they occur is interesting in itself. For example, looking at a cross-section of people within a country, the relationship between income and satisfaction is not usually found to be linear, but instead to be more or less logarithmic.<sup>66</sup> This may or may not suggest real diminishing returns of subjective well-being to income, depending on the extent to which ceiling effects are believed to be present. From a policy perspective, however, the two most interesting questions are: at what point on the income spectrum do apparent diminishing returns/ceiling effects start to kick-in? And then, why *that* point and not some higher (or lower) income level? As long as these are the questions being posed, the boundedness or otherwise of the scale is relatively unimportant. Even using the very strong assumption that the functional shape of the relationship is wholly the artefact of a methodological ceiling effect, and that subjective well-being truly is unbounded, this does not account for the position along the income spectrum at which the observed change occurs.

### Set-points and adaptation

People adapt to changes in their circumstances. For example, when you buy a new plasma-screen television, you may feel extremely happy for a while; however, the novelty soon wears off as you become accustomed to

watching it. In a relatively short period of time, the positive well-being benefit gleaned from the television become negligible and you do not feel any happier overall than you did beforehand.

This process has been dubbed ‘adaptation’ and has been posited as one of the reasons why subjective well-being does not appear to rise consistently with income.<sup>67</sup> Longitudinal studies using panel data (i.e. where the same person is asked the same questions at intervals over several years) show that people’s subjective well-being *does* move up and down over time, in response to positive and negative life events. Being made unemployed, for example, is demonstrably bad for subjective life satisfaction.<sup>68</sup> These same studies, however, also show that people are surprisingly resilient to shocks. Most people tend to imagine that a positive event, such as winning the lottery or, a negative event, such as becoming disabled through injury, would have a permanent impact on their well-being, for good or ill. In fact, it turns out that people who have had these experiences adapt to a very considerable extent, such that – after a period of time – their feelings day-to-day and overall return close to the level at which they had previously been.<sup>69</sup> At one time, psychologists believed that this process of adaptation was more or less complete, such that people would ultimately adapt to *any* change in circumstances. Recent research – including reanalysis of old data – suggests that adaptation may in fact be less complete than originally thought, and may depend on the nature and magnitude of the external change.<sup>70</sup>

Nevertheless, the observation that adaptation is a powerful and automatic process has led some theorists to suggest that each person has a subjective well-being ‘set-point’ – that is, a level of subjective well-being to which they will default, even as their life circumstances may vary and temporarily push their well-being up or down.<sup>71</sup> Adaptation is thus posited as the psychological mechanism through which people return to their set-point.

The term ‘set-point’ is slightly misleading in that it implies absolute fixedness. In fact, recent empirical studies have demonstrated apparently robust changes to people’s set-points, sometimes after significant life changes<sup>72</sup> and sometimes through deliberate interventions.<sup>73,74</sup> However, even if set-points are not absolute and adaptation is not complete in all cases, both are clearly present to some degree and both thus present problems for measuring well-being in policy contexts, especially when the aim is to quantify the improvements made to someone’s well-being over a period of time.

Perhaps more interesting broadly for policy is the question of at what stage in development the set-point becomes relatively ‘set’. Psychological theories of personality development differ markedly in their approach to this issue. To the extent that personality is assumed to be at least partially a function of nurture, however, it seems reasonable to hypothesise that the position of a person’s well-being set-point is influenced by their experiences

during the developmental stages. For instance, it might be that policy effort should be targeted at enabling young children to develop psychological resources, such as optimism and confidence that will lead to their establishing a higher well-being set-point.

### Status effects

If people assess their own well-being against a fixed, internal and absolute scale, the effects of adaptation and returning to a set-point – whilst interesting in terms of what they reveal about human nature – can confidently be taken at face value. If, however, people's subjective feelings or well-being, and thus their ratings of it on subjective instruments, depend on relative comparisons with others – that is, their *status* – then this becomes more problematic. Needless to say, people can and do compare themselves to others in multiple different ways.

To illustrate, let us consider the best-researched (and, in Western society, perhaps pre-eminent) dimension of status comparison: income. As well as providing for better material circumstances, incomes carry symbolic value whereby higher incomes represent higher social status. If people assess their own subjective well-being partially in terms of status, we might expect them (albeit perhaps unconsciously) to factor-in their relative position on the income spectrum.

Empirical evidence bears-out this hypothesis. Easterlin<sup>75</sup> showed that relative income has a bigger impact than absolute income on levels of reported life-satisfaction, a result that has been consistently found since.<sup>76,77</sup> Recently, there has been some convergence on the idea that the relatively weak, but nonetheless clear relationship between subjective life satisfaction and income within a country is predominantly a function of status effects. A recent review concludes that:

*'The broad consensus in the literature is that the [Easterlin] paradox<sup>78</sup> points to the importance of relative considerations in the utility function, where higher income brings both consumption and status benefits to an individual. These individual benefits can explain the positive slope found in much of the empirical literature. However, since status is a zero-sum game, only the consumption benefit of income remains at the aggregate level. Since the consumption benefit approaches zero as income rises, happiness profiles over time in developed countries are flat.'*<sup>79</sup>

In other words, how people feel about their lives is partially a function of how they see themselves doing relative to others. It is important to emphasise here that because status competitions are generally 'zero sum games', gain for one is usually achieved directly at another's expense. It is possible that, in practice, they are sometimes "negative sum", since upward comparisons are more common and more salient than downward comparisons.<sup>80</sup>

As a measurement issue, the existence of status effects points to gaps in our current knowledge – put simply, we know that people compare themselves with others when making certain kinds of self-evaluation, but we do not have a good understanding of exactly *whom* they compare themselves with, nor of the extent to which these comparisons are made consciously or unconsciously. In terms of policy more broadly, status effects have been used to argue for progressive policies oriented toward increasing social equity.<sup>81</sup> Another avenue might be policies that explicitly try to encourage a multiplicity of different status comparison dimensions and thus deemphasise economic success as the main dimension.

## A SWOT analysis of well-being indicators in policy

On 4 March 2008, **nef** hosted a workshop with policy-makers from across government. The core of this workshop was a SWOT – Strengths, Weaknesses, Opportunities, Threats – analysis of issues surrounding the use of well-being indicators in policy. Table 1 gives a summary of outcomes from this process.

As can be seen from Table 1, an important theme on the negative side is the issue of clarity, in relation both to concepts of well-being and the distinction between well-being and happiness, and also to measurement and communication. On the positive side, it was noted by many workshop participants that well-being is an explicit part of policy discourse across a number of different areas, and also that it is a good fit with several emerging agendas that are not currently using the language of well-being.

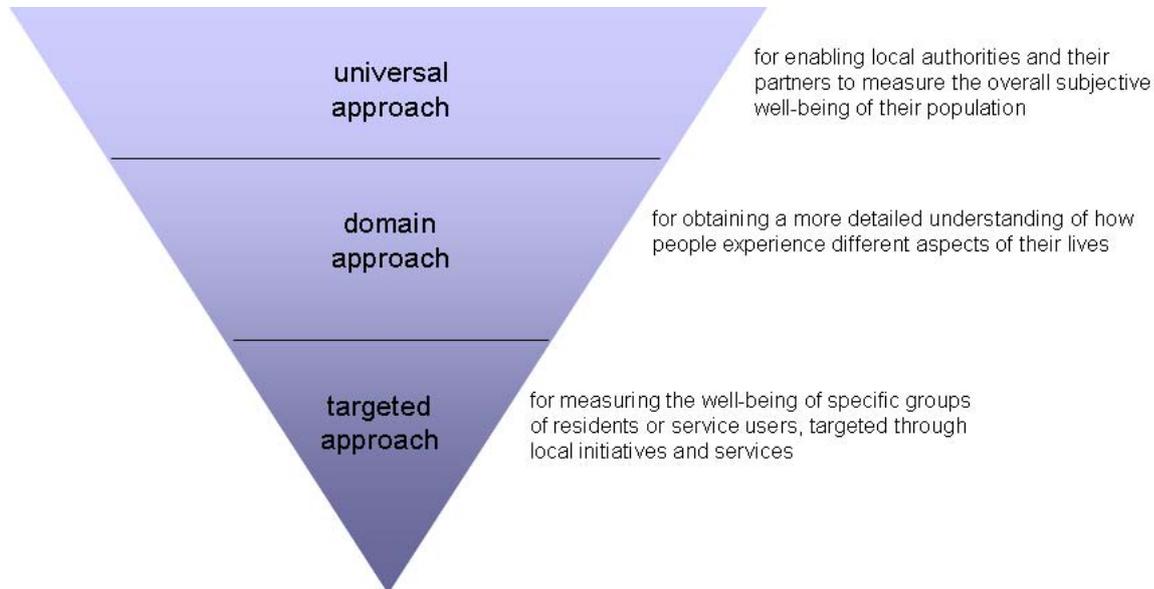
**Table1:** Summary of outcomes from a SWOT analysis conducted at the policy workshop.

	Prospects	Limits
	Strengths	Weaknesses
Internal Origin:	<ul style="list-style-type: none"> <li>• Positive, holistic and integrative approach</li> <li>• Strong and growing evidence base</li> <li>• A developing body of scientific theory</li> <li>• Provides insights for the policy making process</li> <li>• Well-being focus is intuitively persuasive</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of clear definition – e.g. differentiation between well-being and happiness</li> <li>• Measurement not fully developed (or lacks consensus)</li> <li>• Knowledge base – and links to other positive outcomes – are not widely understood in the public domain</li> <li>• Lack of integration with objective indicators and qualitative measures/enquiries</li> <li>• Relies on good communication/interpretation in the policy context</li> <li>• Does it provide policy relevant information – such as ‘how’ and ‘when’ to intervene?</li> </ul>
	Opportunities	Threats
External Origin:	<ul style="list-style-type: none"> <li>• Already on the policy agenda to some extent</li> <li>• Embedded in legal frameworks – Local Government Act ‘Power of well-being’</li> <li>• Topical – appetite from Media</li> <li>• Links to current shift from cure to prevention (e.g. ‘well notes’ from GPs)</li> <li>• Links to current agenda towards making policy more responsive to local people</li> <li>• Organisations (including business) are already interested in related topics such as CSR, staff recruitment and retention</li> </ul>	<ul style="list-style-type: none"> <li>• Confusion/conflation with Happiness</li> <li>• Scepticism from Media (other side of interest)</li> <li>• Inertia to change – many don’t believe well-being can be enhanced</li> <li>• Businesses (and perhaps some government sectors) may feel they will lose money/resources</li> <li>• Can be seen as not the role of Government – too ‘soft’ (note masculine language of ‘hard’)</li> <li>• Can be seen as a “Nanny State” agenda</li> <li>• Attention switches to the next trendy issue</li> <li>• Indicators may not be easily understood by public so no engagement</li> </ul>

# Choosing indicators for policy

As already mentioned, the concept of well-being is increasingly being discussed in policy circles. At the present time, however, this discussion has not led to widespread application of well-being indicators in practical policy contexts. As such, there is little in the way of concrete evidence to draw on regarding how indicators should be selected and used.

An ongoing programme of work by **nef**, in collaboration with the Audit Commission, has begun to explore how local authorities might approach the issue of choosing an appropriate well-being indicator. The first report provided a tripartite schema for thinking-through this issue, developed collaboratively with a small group of local authorities – this is given in Figure 2.<sup>82</sup>



**Figure 2:** A tripartite schema for measuring well-being at the local level.

The three “approaches” described in the schema are framed in terms of the kind of *use* to which a local authority might want to put a subjective well-being indicator, and are intentionally broad. Needless to say, deciding

exactly how and when to use a well-being indicator is a complex issue and will depend on the rationale for collecting information, the feasibility of data collection, the potential for decisions and actions to be taken as a result of the findings and other issues besides.

For each of the three approaches, a number of suitable indicators are suggested from those reviewed in the accompanying spreadsheet (numbers in brackets refer to each indicator's position in the spreadsheet). It should be borne in mind, however, that the mapping of policy purpose and actual indicator chosen is not one-to-one; in other words, some indicators may well be suitable for more than one kind of policy application.

Note that, by necessity, the following is an extremely condensed summary of **nef**'s work for the Audit Commission – interested readers are referred to the full report.<sup>83</sup>

### Universal approach

A universal approach to well-being measurement provides headline data at a population level. Such information could be used as a basis from which more detailed exploration and analysis can take place.

Universal measurement is likely to be conducted via large representative surveys across multiple geographical areas and socio-cultural demographics. Suitable indicators will thus be those that are able to give a broad picture of experienced well-being *in general*, using relatively few items: for instance, Life Satisfaction [row 4], the Satisfaction with Life Scale [row 11] or the Warwick Edinburgh Mental Well-Being Scale [row 10].

Some practical ways in which universal well-being measurement could be used might include:

- A main performance indicator, providing a direct measure of progress in relation to the overarching aims in the Sustainable Community Strategy or Local Area Agreement (e.g. 'to improve the well-being of the population').
- Contextually, to assess differences in between population groups and/or geographical neighbourhoods within a local authority area, as a basis to further exploration and targeted action.
- A dependent variable to help identify the key determinants or predictors of people's well-being at a local level (e.g. good physical health, being economically active, level of income, residents' feeling a sense of belonging where they live, quality of open spaces, etc).

## Domain approach

A domain approach to well-being measurement is concerned with understanding how people feel in relation to different aspects or dimensions of their lives; for example, health, community safety, economic circumstances and so on. Often, these life domains correspond to specific areas of policy – hence, the Domain approach is likely to be of most immediate interest to policy-makers, since it enables a clear theory of change to be hypothesised between policy action and measured well-being outcome.

Well-being indicators suitable for Domain measurement will either be those that can provide a picture of people's experience of, or that are likely to show sensitivity to changes to, particular aspects of their lives – for instance, the Index of Individual Living Conditions [row 16] or the Personal Well-being Index [row 13].

Some practical ways in which domain well-being measurement could be used include:

- An outcome indicator relating to particular thematic objectives in the Sustainable Community Strategy and/or Local Area Agreement blocks.
- A diagnostic tool that helps drill-down to provide more detailed understanding of a population's well-being in relation to particular domains identified as a local priority (e.g. social support and engagement), as a basis for future service planning and delivery.
- A contextual indicator assessing how different population groups and/or geographical neighbourhoods experience different aspects of their life, and so to provide an evidence base for how activities and services.
- A lead indicator to drive improvements in particular services (e.g. using subjective satisfaction with health as a driver of improvements in healthcare service provision).

## Targeted

A targeted approach is likely to be useful for Local Authorities wishing to develop a richer understanding of the psychological well-being of people identified as vulnerable or in need of specialised services, for instance:

- Specific population groups, for example, older people over 75 years.
- Targeted neighbourhoods, for example, most deprived Super Output Areas.
- Service users, for example, looked-after children.

A Targeted approach would require the use of longer, more complex measurement instruments covering aspects of psychological functioning

such as, for example, autonomy, resilience, self-esteem and feelings of competency. Suitable indicators might include the Psychological Well-being Scale [row 5], the Psychological Needs Scale [row 7] or the CASP-19 [row 14].

Some practical ways in which targeted well-being measurement could be used include:

- Better understanding local needs, particularly for vulnerable groups or specific service users, to help inform the design and delivery of local services and interventions.
- Reviewing performance and informing local action in relation to 'closing the gap', where efforts to improve psychological feelings and functioning (around building self-esteem, confidence, aspirations, autonomy and so on) are likely to be required as a precursor to reducing inequalities.
- A performance indicator assessing the well-being impact of specific initiatives or services being delivered at a local level, through tracking progress and capturing 'distance travelled'.
- Assessing and highlighting the importance for local authorities and their partners to target resources towards enabling/protective factors, and so encouraging a shift towards more preventative approaches to service delivery.

# Conclusions

In this report, we have provided both an overview of the most common approaches to conceptualising and subjective well-being, and a new dynamic framework for understanding how they relate to one another. We have also discussed a number of important issues that arise when using subjective well-being indicators in a policy context, including both philosophical and technical considerations. Finally, we have summarised recent and ongoing research that is attempting to systematise subjective well-being measurement in a way that is of practical utility for policy-makers at the local authority level.

The science of well-being is a young and rapidly evolving discipline. In our view, however, this should not prevent policy-makers from making use of the latest findings and measurement approaches to better understand the impact of their decisions on people's lived experience.

# Endnotes

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- <sup>4</sup> [http://news.bbc.co.uk/1/hi/uk\\_politics/5003314.stm](http://news.bbc.co.uk/1/hi/uk_politics/5003314.stm)
- <sup>5</sup> Conservative Party (2007) *Blueprint for a Green Economy: Submission to the Shadow Cabinet from the Quality of Life Policy Group* (London: Conservative Party).
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- <sup>16</sup> Dolan *et al.* (2006a) *op. cit.*
- <sup>17</sup> Dolan P, Peasgood T, Dixon A, Knight M, Phillips D, Tsuchiya A, White A (2006b) *Research on the relationship between well-being and sustainable development* (London: Defra).
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- <sup>19</sup> For instance, on the UK government's Directgov website, information about taking exercise, stopping smoking, losing weight, cutting down on drinking, eating fruit and vegetables, and having safe sex is all grouped under the general banner of 'Health and Wellbeing', along with information on access to health services. <http://www.direct.gov.uk/en/HealthAndWellBeing/index.htm>.
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- <sup>24</sup> Dolan *et al.* (2006a) *op cit.*
- <sup>25</sup> Note that Dolan *et al.* (2006a) call this category 'Objective lists', although they also use the term 'basic needs' interchangeably.
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- <sup>42</sup> Collective action problems are those situations where the net result of individuals pursuing their rational self-interest is a sub-optimal outcome for everyone.
- <sup>43</sup> Recently, attempts have been made to find a middle ground position. In so-called 'soft' or 'libertarian' paternalism, the state or other institutions influence individual's decisions through the manipulation of default options, but *without* placing constraints on their choices (Thaler RH, Sunstein CR (2003) 'Libertarian paternalism' *American Economic Review* **93**:175–179). Even this has come under criticism from those in the classical liberal tradition who see any form of paternalism as inherently unwelcome (Glaeser E L (2005) 'Paternalism and psychology' *University of Chicago Law Review* **73**, pp. 133–150).
- <sup>44</sup> Essentially the same distinction is sometimes couched in terms of 'process' versus 'outcome' indicators.
- <sup>45</sup> This language is drawn from the Balanced Scorecard approach to corporate strategy: Kaplan R S and Norton D P (1992) 'The balanced scorecard: measures that drive performance' *Harvard Business Review* **Jan/Feb**: 71–80.
- <sup>46</sup> The well-known problem of 'perverse incentives' is often the result of poorly chosen lead indicators. In the case of waiting lists, for instance, some NHS trusts found it easier to meet their waiting list targets by using 'hidden' waiting lists than by making real service improvements. For a recent discussion of this problem in the context of public services more widely, see Ryan-Collins J, Sanfilippo L, Spratt S (2007) *Unintended consequences: how the efficiency agenda erodes local public services and a new public benefit model to restore them* (London: nef).
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- <sup>57</sup> Blanchflower DG, Oswald AJ (2008) 'Is well-being U-shaped over the life cycle?' *Social Science & Medicine* **66**:1733–1749.
- <sup>58</sup> Lawton MP, Kleban MH, Dean J, Rajagopal D, Parmelee PA (1992) 'The factorial generality of brief positive and negative affect measures' *Journal of Gerontology* **47**:228–237.
- <sup>59</sup> Hyde M, Wiggins RD, Higgs P, Blane DB (2003) 'A measure of quality of life in early old age: the theory, development and properties of a needs satisfaction model (CASP-19)' *Aging Mental Health* **7**:186–194.
- <sup>60</sup> 'Happiness' is used as an example here. The same problem applies to any construct measured using a bounded scale. It is worth noting that many commonly used objective indicators are also, in a sense, bounded – the rate of unemployment, for instance, has an upper bound (i.e. full employment).
- <sup>61</sup> Haybron DM (2007) 'Do we know how happy we are? On some limits of affective introspection and recall' *Noûs* **41**:394–428.
- <sup>62</sup> Johns and Ormerod (2007) *op cit.*
- <sup>63</sup> Wilkinson (2007) *op cit.*
- <sup>64</sup> Easterlin (1974) *op cit.*
- <sup>65</sup> In response, it could be objected that a *de facto* ceiling might operate if people feel constrained from using the extremes of the scale. For instance, there could exist a tacit cultural norm whereby giving a response of 10 is regarded as boastful – in practice, this would lower the upper-bound of the scale for the majority of respondents, but would not remove the possibility of a ceiling effect.
- <sup>66</sup> Layard R, Mayraz G, Nickell S (in press) 'The marginal utility of income' *Journal of Public Economics*.
- <sup>67</sup> Helson H (1964) *Adaptation Level Theory: an experimental and systematic approach to behavior* (New York: Harper & Row).
- <sup>68</sup> Clark AE, Oswald AJ (1994) 'Unhappiness and unemployment' *The Economic Journal* **104**:648–659.
- <sup>69</sup> Brickman P, Coates D, Janoff-Bulman R (1978) 'Lottery winners and accident victims: Is happiness relative?' *Journal of Personality and Social Psychology* **36**:917–927.
- <sup>70</sup> Lucas RE, Clark AE, Georgellis Y, Diener E (2003) 'Reexamining adaptation and the set point model of happiness: Reactions to changes in marital status' *Journal of Personality and Social Psychology* **84**:527–539.
- <sup>71</sup> Lykken D, Tellegen A (1996) 'Happiness is a stochastic phenomenon' *Psychological Science* **7**:186–189.
- <sup>72</sup> Lucas RE, Clark AE, Georgellis Y, Diener E (2004) 'Unemployment alters the set-point for life satisfaction' *Psychological Science* **15**:8–13.
- <sup>73</sup> Sheldon KM, Lyubomirsky S (2006a) 'How to increase and sustain positive emotion: The effects of expressing gratitude and visualizing best possible selves' *Journal of Positive Psychology* **1**:73–82.
- <sup>74</sup> Sheldon KM, Lyubomirsky S (2006b) 'Achieving sustainable gains in happiness: Change your actions, not your circumstances' *Journal of Happiness Studies* **7**:55–86.
- <sup>75</sup> Easterlin (1974) *op cit.*

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<sup>76</sup> Diener and Seligman (2002) *op cit.*

<sup>77</sup> Layard (2005) *op cit.*

<sup>78</sup> The so-called Easterlin Paradox is the finding that aggregate subjective well-being does not increase over time with economic growth, yet there is a clear (albeit fairly small) positive relationship between income and well-being at the cross-section

<sup>79</sup> Clark A, Frijters P, Shields M (in press) 'Relative income, happiness and utility: An explanation for the Easterlin Paradox and other puzzles' *Journal of Economic Literature*.

<sup>80</sup> Layard (2005) *op. cit.*

<sup>81</sup> *Ibid.*

<sup>82</sup> Steuer *et al*, (2007) *op cit.*

<sup>83</sup> *Ibid.*