

# What do Subjective Well-Being Judgments Mean? Sources and Distinctions, Processes and Mechanisms

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## Abstract:

How do people decide how happy they are? In principle, a number of models are possible and the current chapter highlights three of them. People could subdivide their life into various domains, consider their progress in these domains, and then integrate the results of this bottom-up activity. Alternatively, people could omit such a systematic process and simply base their judgments on whatever information is currently accessible. Finally, it is possible that people already know their happiness levels, in which case they could directly retrieve such evaluations. The plausibility of these models is examined with respect to issues of stability, change, and context in well-being judgment. People have fairly stable ideas about how happy they are and well-being judgments seem somewhat resistant to priming. Nonetheless, well-being sometimes changes in response to life events. Accordingly, some combination of judgment models might be necessary to fully account for current findings.

**Keywords: Happiness, Judgment, Heuristic, Systematic, Life Events**

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For most people, happiness is not just a pleasant occurrence. Rather, it is a guiding principle in their lives. People want to be happy more than they want more specific things like love, wealth, or health and happiness is the presumed goal of many of their other pursuits (Kim-Prieto, Diener, Tamir, Scollon, & Diener, 2005). This emphasis on happiness is not misplaced in that there are many benefits to being happy, including in the realms of love and work as well as physical functioning (De Neve, Diener, Tay, & Xuereb, 2013; Lyubomirsky, King, & Diener, 2005a). For example, happy people attract marital interest and they are less likely to get divorced (Marks & Fleming, 1999). Even beyond the individual level, happiness can be used to track societal changes (Frey & Stutzer, 2010) and to compare entire societies (Diener & Seligman, 2004).

Given the importance of happiness to individuals as well as societies, it is important to understand its basis. A first point worth making here is that happiness is a subjective phenomenon. People make judgments of happiness and we consider them happy to the extent that they report themselves to be happy, potentially independent of the circumstances of their lives (Myers & Diener, 1995). A second point worth making is that happiness, in the form of subjective well-being (SWB), encompasses both emotional experiences and cognitive evaluations (Diener, 1984; Tay, Chan, & Diener, 2014). People are happy when they have more frequent experiences of positive emotion, less frequent experiences of negative emotion, and when they evaluate their lives more favorably (Myers & Diener, 1995). The present chapter is primarily concerned with life evaluations rather than emotional experiences.

People have been asked to evaluate their lives in a number of ways. They have been asked to choose rungs of a ladder or faces to represent how happy they are (Andrews & Withey, 1976). Another commonly used happiness item asks people whether they are very happy, pretty happy, or not too happy “these days” (Bradburn, 1969). Alternatively, people might be asked how satisfied they are with their lives, “all things considered” (Wagner, Frick, & Schupp, 2007). Such single-item measures are used both because they are convenient and because they seem to capture the construct in an efficient manner (Lucas & Donnellan, 2011). In addition, though, a number of multi-item measures of life satisfaction exist. One

asks people to make several general life satisfaction ratings before rating satisfaction with more particular domains like health and standard of living (Weinberg, Seton, & Cameron, in press). Another asks people whether they agree or disagree with statements such as “I am satisfied with my life” (Diener, Emmons, Larsen, & Griffin, 1985). These different measures tend to correlate fairly highly with each other (Kobau, Sniezek, Zack, Lucas, & Burns, 2010), and constitute the primary data of interest.

In principle, people could engage in a number of different strategies in answering these questions. Campbell, Converse, and Rodgers (1976) posited a somewhat complex mental calculus. When deciding one’s overall level of happiness, one could enumerate the various domains of life, consider one’s progress in those domains, compare that progress to multiple standards, and compute an overall well-being score that averages across these efforts. Somewhat similarly, Michalos (1985) suggested that people make an extensive set of comparisons (e.g., between what one has and what one expects to have in 5 years, between what one has and what one expected to have 3 years ago) and then integrate the results of these comparisons before deciding what their well-being is. To us, these perspectives implicate a level of thoughtfulness and extension that is unlikely to characterize the typical effort to determine one’s well-being. That is, these perspectives seem inconsistent with modern views of decision making (Gigerenzer, 2015) and social cognition (Fiske & Taylor, 1991), which hold that people aim for efficiency when making their decisions and judgments.

At another extreme, some social psychologists emphasize the malleability of attitude judgments in general (Erber, Hodges, & Wilson, 1995) and life satisfaction judgments in particular (Deaton & Stone, 2016; Schwarz & Strack, 1999). On the basis of priming studies (Bargh & Chartrand, 1999), some of which are reviewed below, the suggestion seems to be that people do not essentially know their levels of life satisfaction. Rather, they construct such judgments on the basis of whatever information happens to be accessible in the moment of judgment (Schwarz & Strack, 1999). Both survey researchers and well-being researchers should be interested in these sorts of influences. However, the possible presence of priming effects does not preclude the additional presence of more stable sources of information in well-being judgment. The fact is that well-being judgments are fairly stable over time (Eid & Diener, 2004) and priming perspectives on judgment seem insufficient in accounting for such sources of stability (Anusic & Schimmack, 2016). People know a fair amount about their lives and are likely to retrieve this information when deciding how happy they are (Eid & Diener, 2004).

Indeed, it is reasonable to propose that people think about their lives a lot of the time and they think about happiness in this connection (Myers, 1992). This renders it possible that asking people about their happiness is asking them to answer questions that they have already answered, for an internal audience. If so, people may not need to construct an answer when they are asked about their life satisfaction. Rather, they may be able to recall a pertinent answer more-or-less directly from memory. This perspective overlaps with the accessibility model of attitude strength, which posits that previous experience evaluating an attitude object (in this case, one’s life) changes the evaluation process in favor of direct attitude retrieval (Fazio, 1995). For example, asking the novice coffee drinker how much they like coffee could lead to a complex mental calculus. Asking the experienced coffee-drinker the same question, however, may lead to the answer “a lot” without a great deal of deliberation. It is feasible that some people, if not many, think of their lives in a way akin to an experienced coffee drinker.

To summarize, there are at least three perspectives on life satisfaction judgment that deserve attention (see Table 1). Under some circumstances, people will think about their standing and standards in various life domains before giving a life satisfaction judgment (Campbell et al., 1976). However, people are efficient thinkers and may curtail some of this activity in favor of quicker, more heuristic ways of answering the question (Gigerenzer, 2015). Under some circumstances, primed thoughts and feelings could influence the life evaluation process (Schwarz & Strack, 1999). However, these contextual influences are not likely to be strong because people know a great deal about their lives and are likely to consult this information independent of priming influences (Schimmack & Oishi, 2005). Finally, we have suggested that people who have thought about their lives extensively may be able to evaluate them somewhat directly, thereby omitting a lengthy deliberation process at the time of judgment. The last perspective should assume that life satisfaction judgments are stable, much as accessible attitudes are (Fazio, 1995). We will revisit these three perspectives, in one way or another, throughout the course of the review.

**Table 1**  
*Three Models of Well-Being Judgment and Their Characteristics*

	Integrative	Constructivist	Direct Retrieval

<b>Relevant Citation</b>	Campbell, Converse, & Rodgers (1976)	Schwarz & Strack (1999)	Fazio (1995)
<b>Description</b>	When making well-being judgments, people enumerate their life domains, review their progress in each life domain, compare that progress to standards, and average across these computations.	People do not know how happy they are “in general”. When they are asked such questions, they use whatever information is currently accessible and are therefore vulnerable to temporary and irrelevant priming factors.	People have thought about how happy they are previously. When making well-being judgments, they directly retrieve these pre-stored evaluations.
<b>Processing Mode</b>	Systematic	Heuristic	Heuristic
<b>Retrieval Direction</b>	Bottom-Up	Bottom-Up	Top-Down
<b>Strength 1</b>	Can explain why life events matter	Highlights potential influences due to mood and communication rules	Can explain the stability of well-being judgments
<b>Strength 2</b>	Can account for well-being change	Can account for contextual influences	Is consistent with cognitive miser perspectives
<b>Weakness</b>	Presumes too much mental calculus	Overemphasizes the malleability of well-being judgments	Does not specify the basis of happiness levels

### Do Life Circumstances Matter?

It is intuitive to think that life satisfaction judgments should be about life. That is, they should reflect life’s circumstances and the situation in which one finds oneself. Demographic factors like sex, race, and age should matter and social and economic factors like one’s income should matter as well. Although there clearly are relationships between social-demographic factors and happiness, these relationships can be surprisingly small (Diener, Suh, Lucas, & Smith, 1999). In an older but comprehensive effort, Andrews and Withey (1976) concluded that demographic and life circumstance factors collectively explained less than 10% of the variance in happiness judgments. Later, the figure rose to 15% or so (Argyle, 1999), but the point remains that factors like age, race, income, and socioeconomic status explain only a relatively small portion of variance in well-being judgments (Diener et al., 1999; Lykken & Tellegen, 1996).

The relationship between age and well-being is an illustrative example. As we age, we lose mobility, encounter disease more often, and lose fluid intelligence as well (Rook, Charles, & Heckhausen, 2011). Furthermore, people in America (including older people) hold a pessimistic view of aging (Hummert, Garstka, Shaner, & Strahm, 1994). One could therefore expect some decreases in well-being with age. Instead, the relationship between age and well-being seems puzzling. One contention is that both positive and negative affect decrease with age (Diener, Sandvik, & Larsen, 1985). However, another contention is that well-being increases with age (Carstensen et al., 2011), perhaps excepting a late-life decline (Gerstorf et al., 2008). A third perspective, though, contends that there are curvilinear relations between age and well-being, with the lowest levels in middle age (Blanchflower & Oswald, 2008). It is difficult to make sense of these divergent ideas and the truth of the matter may be that aging effects are either subtle or sample-dependent. Thus, the most general conclusion could be that age does not impact well-being as much as one might think or even much at all (Lykken & Tellegen, 1996; Myers & Diener, 1995).

Further, there are data to suggest that even somewhat radical changes in life circumstances can have surprisingly small effects on long-term well-being (Loewenstein & Schkade, 1999). Along these lines, Gilbert and colleagues have conducted several studies showing that people quickly habituate to seemingly terrible events such as tenure denial (Gilbert, Pinel, Wilson, Blumberg, & Wheatley, 1998). Under many circumstances, they also seem to adapt to the positive features of their lives as well (Sheldon & Lyubomirsky, 2007). In a famous study of this type, Brickman, Coates, and Janoff-Bulman (1978) compared the happiness levels of lottery winners, controls, and people who had encountered fairly serious

spinal cord injuries. The authors concluded that the lottery winners were not happier than the control group and the paralyzed accident victims had rebounded such that their happiness levels were surprisingly high. When combined with other life event/well-being studies (e.g., Headey & Wearing, 1989; Robinson, 2000; Suh, Diener, & Fujita, 1996), the conclusion seems to be that happiness levels can often be insensitive to bottom-up, life circumstance factors (Lykken & Tellegen, 1996). Such considerations led to a different, top-down view of well-being judgment (Diener, 1984).

### **Are There Top-Down Influences?**

Top-down influences are sources of belief, affect, or disposition that stabilize well-being judgments, potentially in a way that is independent of objective life circumstances (Diener, 1984; Watson, 2000). There are several basic properties of well-being judgment that seem consistent with top-down influences. First, the average person does not have neutral levels of life satisfaction. Rather, the average person is more satisfied than dissatisfied with his or her life and this is true across many measurement instruments and countries (Cummins, 2003). The consistency of these findings suggests that there is a sort of default that favors non-neutral levels of happiness for most people under most circumstances (Diener, Lucas, & Scollon, 2006). Second, life satisfaction is stable over time (Eid & Diener, 2004) and consistent across situations (Watson, 2000). That is, people who are more satisfied with their lives tend to remain more satisfied with their lives across time and circumstance (Watson, 2000).

Thus, there seem to be dispositional (stable, but person-varying) top-down influences on life satisfaction judgments that warrant serious attention (Diener et al., 1999). These top-down influences could reasonably be due to one's personality traits. For example, Costa and McCrae (1980) maintain that extraversion and neuroticism, two personality traits linked to affect, could determine one's "set point" or stable level of well-being. In support of these ideas, extraversion and neuroticism are good predictors of well-being (Watson, 2000) and these personality traits tend to be more stable than life satisfaction or emotion (Anusic & Schimmack, 2016). Alternatively, top-down influences could follow from self-esteem given that a number of theories of well-being implicate processes concerning the self (e.g., Michalos, 1985) and self-esteem is also a good predictor of well-being (Diener & Diener, 1995). These perspectives can be combined when it is recognized that extraversion and neuroticism are loaded with self-evaluative variance and this self-evaluative variance is highly correlated with self-esteem (Anusic, Schimmack, Pinkus, & Lockwood, 2009).

The link to self-evaluative processes seems appealing in another way. There are pronounced cultural differences in well-being (Diener, Oishi, & Lucas, 2003) and there are also pronounced cultural differences in self-evaluation (Heine, Lehman, Markus, & Kitayama, 1999). In particular, people from Asian cultures like China, Japan, and Korea tend to report lower levels of life satisfaction (Diener et al., 2003) and these cultures also favor greater modesty in self-presentation (Heine et al., 1999). Processes concerning the self (Markus & Kitayama, 1991) and self-evaluative tendencies (Suh, 2000) could therefore constitute a sort of top-down influence on well-being judgments that diverges across cultures. Top-down influences should be particularly apparent for global or retrospective reports of well-being (Tay et al., 2014) and there is some evidence to suggest that these are the sorts of well-being judgments that display the greatest variations across culture (Oishi, 2002; Saeki, Oishi, Lee, & Maeno, 2014). This model will not be sufficient in accounting for all cultural differences in well-being, many of which can be ascribed to objective features of the culture (Diener, Diener, & Diener, 1995), but it could account for some of them (Diener, Napa Scollon, Oishi, Dzokoto, & Suh, 2000).

We are generally convinced that there are top-down influences on well-being judgment. However, the framework is not entirely satisfactory. To ascribe well-being to personality traits, or to self-esteem, does not explain where personality traits or self-esteem come from. Moreover, self-evaluative processes, including those linked to personality or culture, may constitute some uncertain mix of style and substance (Paulhus & John, 1998). This renders it possible that at least a portion of the link between personality and well-being, or between culture and well-being, could be due to variations in self-presentation rather than more substantive factors like temperament (Davies, Connelly, Ones, & Birklund, 2015). Finally, both personality and well-being change over time (Anusic & Schimmack, 2016) and some consideration of bottom-up factors seems necessary to account for these changes (Headey, Muffels, & Wagner, 2010). In the context of top-down factors, we therefore revisit the question of whether life circumstances matter, this time while considering the "set point" idea of well-being.

### **Are There "Set Points" for Well-Being?**

In the well-being literature, the set point is a sort of happiness default that one might return to in the absence of unusual events. For the vast majority of people, the set point seems to favor happiness over unhappiness (Diener, Kanazawa, Suh, & Oishi, 2015). Consistent with this idea, Cummins (2003) converted a number of happiness and life satisfaction measures to a 0 to 100 scale. The average life

satisfaction score was about 75, or roughly  $\frac{3}{4}$  of the happiness/satisfaction maximum. The person's set point could vary by culture, in that cultures differ in their average ratings of happiness (by as much as 14 of 100 points in Cummins, 2003). Of more pertinence, one's set point would vary by personality traits such as extraversion and neuroticism (Costa & McCrae, 1980). Events that are more pleasant (unpleasant) than typical for one's personality would temporarily shift happiness in a positive (negative) direction, but happiness would return to one's dispositional level thereafter (Headey & Wearing, 1989).

The set point idea seems somewhat necessary, both to cover the polarized nature of normative happiness ratings (Cummins, 2003) and to cover marked individual differences (Watson, 2000) as well as genetic influences (Lykken & Tellegen, 1996). Nonetheless, we may never know what a person's set point is because they are always interacting with the environment and therefore always in flux to a certain extent (Headey & Wearing, 1989; Robinson, 2000). Further, it should be recognized that life satisfaction changes over longer periods of time, though in different directions for different people (Anusic & Schimmack, 2016). This probably means that set points also slowly change, either due to maturation processes or lifestyle choices that create new personal trajectories. Along these lines, Headey et al. (2010) estimate that a sizeable minority of people (25-30%) had different apparent set points in the 1980s than they did in the 2000s.

To gain a more detailed perspective on set points and adaptation levels, recent research has revisited the idea that life events typically fail to influence our happiness levels for any appreciable length of time (McCrae & Costa, 1994). In contrast with classic research in this area (e.g., Brickman et al., 1978), this more recent research has typically used longitudinal designs rather than quasi-experiments and has sometimes employed sophisticated methods to deal with maturational trends (Anusic, Yap, & Lucas, 2014). In one study of this type, Clark and colleagues (Clark, Diener, Georgellis, & Lucas, 2008) found that people adapted to marriage and widowhood within about 3 years, but unemployment appeared to undermine well-being for a longer period of time. Using a different sample and somewhat different methods, Anusic et al. (2014) reported adaptation for marriage and childbirth, but a seeming permanent change due to disability. Summarizing a number of studies of this type, Lucas (2007) suggests that people adapt to changes in marital and family status, but may not be able to fully recover from periods of unemployment or disability.

Thus, there could be an asymmetry with respect to positive and negative events. Positive events like marriage or promotion (or winning the lottery: Brickman et al., 1978) can influence our happiness for a period of time, but that influence will probably dissipate. On the other hand, some negative events – such as unemployment or disability – can have a lasting impact (Lucas, 2007), possibly because they permanently alter our capacity to pursue our goals. Cummins (2010) makes a related point when he suggests that especially low levels of life satisfaction reflect homeostatic defeat rather than normal fluctuations about one's set point. Even within normal ranges, though, people fluctuate in their happiness levels from time to time (Eid & Diener, 2004). These fluctuations suggest that it may be more accurate to characterize the set point as a "set range" – a range of possible well-being scores for the individual rather than one specific level (Sheldon & Lyubomirsky, 2007; Watson, 2000). Provided that one is not at the top of this range, improvements in well-being may be possible (Sheldon & Lucas, 2014; Watson, 2000).

However, improving one's well-being appears to be difficult. Seeking pleasure can backfire (Schooler, Ariely, & Loewenstein, 2003) and mere behavioral change does not seem sufficient (Sheldon & Lyubomirsky, 2007). Rather, one must engage in the right activities for the right reasons while varying their form and timing so that hedonic adaptation is forestalled (Lyubomirsky, Sheldon, & Schkade, 2005b). Also, positive events and activities, per se, do not seem to be sufficient. Rather, the positive events and activities must contain elements of novelty and they must implicate core self-motives such as autonomy, competence, and relatedness (Sheldon & Elliot, 1999). These perspectives suggest that we have the opportunity to intentionally increase our well-being, but considerable skill may be necessary in doing so (Lyubomirsky et al., 2005b; Sheldon & Lyubomirsky, 2007).

To summarize, well-being is conservative, such that it remains remarkably stable over time even as our lives change (Anusic & Schimmack, 2016). Much of this stability seems to be due to global beliefs about ourselves and to personality factors, both of which compel us to give similar answers about our happiness over time (Lykken & Tellegen, 1996). Alternatively, people may develop fairly fixed ideas about their happiness that they can retrieve whenever they are asked (Robinson & Oishi, 2006). In either case, there are top-down influences that keep happiness judgments within acceptable, accustomed ranges (Cummins, 2003). Yet, such fixed ideas about happiness are not entirely insensitive to recent life events (Robinson, 2000) or to significant life changes (Lucas, 2007). Altogether, then, we suggest that there are both top-down (dispositional) and bottom-up (event-based) influences on well-being judgment, though the top-down influences tend to dominate (Anusic & Schimmack, 2016; Eid & Diener, 2004).

## Are Life Satisfaction Judgments Plagued by Context Effects?

Experimental research conducted in the 1980s suggested that our judgments of life satisfaction can be biased by somewhat irrelevant and temporary factors such as finding a dime in the copy machine, the weather, the outcome of a recent soccer match, or the order in which life satisfaction questions are administered (Schwarz & Clore, 1983; Schwarz, Strack, Kommer, & Wagner, 1987; Strack, Martin, & Schwarz, 1988; for a review, see Schwarz & Strack, 1999). Some of this research gave rise to a very influential theory of mood (Schwarz & Clore, 1996) and the Strack et al. (1988) paper can be highlighted for its fascinating analysis of the role of communication norms (such as to avoid redundancy) in the potential inferences that people make when answering self-report questions (Schwarz, 1999). Yet, the research adopted a puzzling view of well-being. The contention, more or less, was that people rarely evaluate their lives as a whole and are therefore susceptible to a range of biases when making life satisfaction judgments. This radical constructivist view does not seem consistent with the highly stable nature of well-being (Pavot & Diener, 1993) or with the top-down factors that seem endemic to well-being judgments (Cummins, 2003; Diener et al., 1999; Heller, Judge, & Watson, 2002).

The idea that people consult their affective states when deciding how happy they are (Schwarz & Clore, 1983) has intuitive appeal. Moreover, this idea is clearly correct at some level. Personality traits like extraversion and neuroticism predict happiness in part because they predict dispositional levels of positive and negative affect (Costa & McCrae, 1980). Also, trait reports of affect are strong predictors of well-being, even after controlling for personality traits and cognitive predictors (Blore, Stokes, Mellor, Firth, & Cummins, 2011). Nevertheless, people can distinguish momentary affective states from their more general tendencies to experience positive and negative affect (Watson, 2000) and they may discount the former when making dispositional inferences (Lucas, Dyrenforth, & Diener, 2008). Consistent with these ideas, Eid and Diener (2004) found that subjective well-being (SWB) was strongly trait-like over the period of 12 weeks and momentary mood states had small, largely inconsequential influences on SWB judgment (also see Yap et al., in press). Similarly, Lucas and Lawless (2013) revisited the idea that transient weather patterns can influence life satisfaction judgments (Schwarz & Clore, 1983). In a large-scale study, current weather conditions did not predict life satisfaction judgments in any straightforward manner, and most weather conditions did not predict them at all. Hence, life satisfaction biases due to current mood seem to be slight (Lucas et al., 2008).

Turning to item-order effects, Strack et al. (1988) examined the correlation between dating happiness and general happiness in three conditions. When the general happiness item was answered before the dating happiness item, the correlation was  $r = .16$ , suggesting that people do not consider dating much when rating their general happiness. When the dating happiness item preceded the general happiness item, by contrast, the correlation rose to  $r = .55$ , such that participants may have based their ideas about their happiness in general on primed information about their dating lives. In a third condition in which it was made clear that there were two separate questions (one about dating and one about life in general), though, the correlation dropped to  $r = .26$  even when the dating item occurred first. These results indicate that it may be possible to alter happiness judgments by priming more specific sources of information first (e.g., about dating), but that people may resist this influence when the two judgments seem different from each other (also see Schwarz, Strack, & Mai, 1991).

In the domain of happiness judgments, it appears that priming effects can either take the form of assimilation (increased use of primed information) or contrast (decreased use of primed information). Moreover, it is often difficult to state, a priori, which sort of priming effect is more likely (Schwarz & Strack, 1999). This has resulted in complicated findings. For example, Eiser and de Mey (1993) found complex priming effects depending on whether positive or negative sources of information were first recalled and whether the recalled information was vivid or not. The exact form of the results did not seem expected. It is also not always obvious where priming effects end and communication effects begin or what inferences people will make about the communication context (Tourangeau, Rasinski, & Bradburn, 1991). Concerning the relationship between marital happiness and general happiness (Schwarz et al., 1991), researchers have found assimilation effects (Smith, 1982), contrast effects (Schuman & Presser, 1981), or no effects (Turner, 1984). Further, when priming effects are found, the results involving correlations and means can differ. Thus, a wider reading of this literature suggests that item-order effects are confusingly temperamental (Schuman & Presser, 1981; Tourangeau et al., 1991).

There are also reasons to wonder about the typical magnitude of item-order effects (Lucas et al., 2008; Lucas, Oishi, & Diener, 2016). Theoretically, they can occur when (a) people do not know, ahead of time, how happy they are, (b) the primed source of information is deemed relevant, and (c) the primed source of information would not have been accessed in the absence of the priming manipulation (Schimmack & Oishi, 2005). To the extent that people know how happy they are, or to the extent that they would have retrieved the relevant information anyway, item-order effects would be considerably less likely

(Schimmack & Oishi, 2005). In speaking to this literature, Schimmack and Oishi (2005) conducted a meta-analysis and several replication attempts. The meta-analysis revealed that item-order effects were heterogeneous across 16 previous studies. Furthermore, several direct replication attempts failed to produce significant findings and the authors concluded that item-order effects may typically be fairly small in effect size. When these studies are considered in light of inconsistencies among previous studies (e.g., the contrasting results of Smith, 1982, and Schuman & Presser, 1981), this seems a reasonable conclusion (also see Weinberg et al., in press).

### **What Do People Think About When Making Well-Being Judgments?**

Thus far, we have primarily examined how people make well-being judgments by examining questions of process – stability, personality correlates, vulnerability to contextual influence, etc. However, it might also be possible to ask people what they think about when making life satisfaction judgments. Although the sources of knowledge mentioned might not overlap perfectly with those actually contributing to their judgments (Nisbett & Wilson, 1977), this is a worthwhile type of data to consider.

A first point worth making is that people typically recall more positive than negative events from their personal past (Seidlitz & Diener, 1993) and they also have more favorable than unfavorable thoughts about their lives (Luhmann, Hawkley, & Cacioppo, 2014). This degree of positivity could follow from factors like self-enhancement (Sedikides & Gregg, 2008) or it could follow from the fact that we typically inhabit hospitable rather than hostile environments (Cacioppo, Gardner, & Berntson, 1997). In either case, greater positivity in recalled events or in thoughts about our current life could partially explain why life satisfaction tends to be polarized in a positive direction (Cummins, 2003).

With respect to time frames, Ross, Eyman, and Kishchuck (1986) found that people primarily thought about their present lives when making life satisfaction judgments, suggesting that life satisfaction judgments should display some sensitivity to recent life events (Robinson, 2000). Following a focus on the present, people said they were focused on the future (Ross et al., 1986). This makes sense because well-being is intimately related to our goals and goals are future-oriented entities (Sheldon & Lyubomirsky, 2007). Finally, people did not report thinking about the past as frequently when making life satisfaction judgments (Ross et al., 1986).

The sorts of life domains that people report thinking about also make sense. Relationships are important to well-being (Myers & Diener, 1995) and people report thinking about relationships (e.g., family relationships, friendships) when making well-being judgments (Luhmann et al., 2014). They also report thinking about their academic and career success and some mention their health (Luhmann et al., 2014). In one study, for example, Schimmack, Diener, and Oishi (2002) asked people what they thought about while making life satisfaction judgments and found that 33% mentioned family, 26% mentioned friends, 22.5% mentioned romantic life, 20% mentioned academic life, and 12% mentioned health. Financial concerns and social comparisons were not mentioned as frequently.

Schimmack and colleagues (2002) have reported additional intriguing evidence in favor of this thought-listing method. What people report thinking about correlates highly ( $r = .67$ ) with importance ratings for the relevant source of information. This suggests that people tend to think about important domains of their lives, rather than whatever happens to come to mind, when making life satisfaction judgments (Schimmack & Oishi, 2005). Furthermore, people who report using a source of information (“users”) display higher correlations between that source and general well-being than those who do not (“non-users”). For example, Schimmack et al. (2002) reported that the correlation between family satisfaction and life satisfaction was higher for people who reported thinking about family ( $r = .44$ ) than for people who did not mention this domain ( $r = .12$ ).

There are clearly limitations to this method, though (Nisbett & Wilson, 1977). People do not mention their personalities as a source of life satisfaction judgment despite the importance of personality influences (Costa & McCrae, 1980). And they do not mention cultural norms, even though cultural norms have been heavily implicated in life satisfaction judgment (Diener et al., 2003). Thus, people do not seem aware of some of the important top-down influences that are guiding their judgments.

### **Some Distinctions in Well-Being Judgment**

There are different ways of measuring well-being and some of these distinctions are important in understanding what a given sort of judgment reflects. In that spirit, we review some useful distinctions, particularly with respect to their ability to elucidate judgment processes. These distinctions can also be useful, however, in thinking about personality and culture and in comparing different views of what happiness should consist of.

**Online Happiness versus Recalled Happiness.** Online reports of happiness focus on current emotional experiences and how they are influenced by factors such as social setting, events that have

recently happened, or time of day (Bolger, Davis, & Rafaeli, 2003). These emotions are typically in flux and have a noticeably reactive character to them (Bolger et al., 2003; Conner, Tennen, Fleeson, & Barrett, 2009). They are also highly dependent on setting. Some settings and activities are more “fun” than others and people tend to report greater happiness when they are engaged in leisure or socializing relative to work or childcare (Kahneman, Krueger, Schkade, Schwarz, & Stone, 2004). In the short run, in fact, one could be happier when unemployed than when not because unemployment can bring greater leisure (Knabe, Rätzl, Schöb, & Weimann, 2010). In the long-run, by contrast, unemployment would tend to undermine self-esteem and, perhaps because of this, life satisfaction (Clark et al., 2008).

Nonetheless, an advantage of online reports is that they are closely tied to both events and actual experiences (Robinson & Clore, 2002a). This seems to render them, relative to retrospective or trait reports of emotion, less prone to belief-driven top-down biases (Robinson & Clore, 2002a). For example, Oishi (2002) observed that Asian/European American differences in happiness were greater for recall-based measures than for online measures, and similar results have been found using Day Reconstruction methods (Oishi, Whitchurch, Miao, Kurtz, & Park, 2009). One interpretation of this pattern of findings is that Asians believe that they are less happy than European Americans and such beliefs differentially contribute to retrospective and trait reports of happiness relative to online reports (Robinson & Clore, 2002a). If this is true, one could actually study top-down factors in terms of the discrepancy between online reports of happiness and retrospective reports.

Even so, online reports of happiness should not always be favored. They may focus too particularly on the person’s ecological reactions to events, and on hedonic factors, relative to broader forms of well-being such as meaning and purpose (Diener & Tay, 2014). Averaging a person’s happiness across moments could therefore provide a somewhat misleading picture of a person’s global, more cognitive sense of life satisfaction (Tay et al., 2014).

**Domain Satisfaction versus Global Life Satisfaction.** There are only 24 hours in a day and people have limited capacities to achieve everything that they might wish to achieve (Baumeister, Heatherton, & Tice, 1994). There can therefore be tradeoffs such that one succeeds in some life domains (e.g., work) but not others (Heidemeier & Göritz, 2013). Despite these potential tradeoffs, there tend to be positive correlations among life domains such that satisfaction in one life domain tends to predict satisfaction in another (Campbell et al., 1976; Diener, 1984). These correlations can be small, though. Along these lines, the correlation between marital satisfaction and job satisfaction may be as low as  $r = .16$  (Heller, Watson, & Ilies, 2004). By averaging across a number of life domains, however, one can compute a domain-derived life satisfaction measure that correlates highly with a more generic (domain-unspecified) one (Campbell et al., 1976; Weinberg et al., in press).

Regardless, people consider different sources of knowledge when making domain satisfaction ratings versus when rating their satisfaction with life in general. Developments within a particular domain (e.g., a raise at work) are more likely to affect satisfaction with that domain (e.g., work) than satisfaction with life in general, indicating the presence of bottom-up influences (Heller et al., 2004). Conversely, there are top-down influences that matter more for global reports of well-being, even after controlling for satisfaction with particular domains. Personality factors and dispositional positivity are among these (Diener et al., 2000). Thus, one way to isolate dispositional positivity is to subtract domain-specific satisfaction ratings from domain-general satisfaction ratings, with larger differences indicating greater positivity (Diener et al., 2000).

Relatedly, happy people self-enhance. That is, they view their lives more positively than seems to be justified (Wojcik & Ditto, 2014). Happy people also treat the domains of their lives differently than unhappy people. They invest effort in the areas of their lives that are improving and divest effort from other, more problematic life domains (Carver & Scheier, 2014). In related terms, happy people emphasize the areas of their lives that are going well. This point was made in a set of studies by Diener, Lucas, Oishi, and Suh (2002), who first isolated a person’s “best” (highest-rated) and “worst” (lowest-rated) life domains. The best domains were more predictive of global well-being for happy people and the worst domains were more predictive of global well-being for unhappy people. These results are consistent with the idea that happiness biases the selection of life domains to consider when rating happiness in general. One could avoid these biases somewhat by measuring life satisfaction in terms of the average of multiple, more specific life domains (Weinberg et al., in press). Alternatively, biases such as these are central to more global conceptions of life satisfaction (Tay et al., 2014).

**Bottom-Up versus Top-Down Influences.** Bottom-up models contend that happiness is built on the particulars of life, including circumstances, events, and progress in specific life domains (Diener, 1984). Top-down models instead emphasize factors like personality and self-enhancement, which are likely to influence life satisfaction as a whole as well as life satisfaction in particular domains like work, marriage,

and leisure (Heller et al., 2002). Bottom-up factors will lead to changes in well-being when life circumstances change; by contrast, top-down factors will tend to promote stability over time (Headey & Wearing, 1989). These models are not mutually exclusive and one can find evidence for both bottom-up and top-down influences in the same study, which Brief, Butcher, George, and Link (1993) did in the area of health satisfaction. Similarly, job satisfaction is influenced by the circumstances of one's job, but also by personality factors like extraversion and neuroticism (Watson, 2000).

Consistent with top-down paths, personality traits have been linked to satisfaction with particular life domains like one's job or marriage (e.g., Heller et al., 2004). Moreover, controlling for personality traits often reduces the correlation between satisfaction with a domain (e.g., one's job) and life satisfaction, suggesting that at least a portion of the relationship can be ascribed to personality (Heller et al., 2002). Although it is intuitive to think of top-down influences in terms of judgmental biases like dispositional positivity or self-enhancement (Wojcik & Ditto, 2014), top-down influences can also be more substantive. Along these lines, several studies have shown that personality traits can predict the occurrence of positive and negative life events (Headey & Wearing, 1989; Magnus, Diener, Fujita, & Pavot, 1993) and global life satisfaction can prospectively predict latter success in particular domains like health and work (Lyubomirsky et al., 2005a). Happy people, for example, attract marital partners, are happy in their marriages, and are less likely to become divorced (Marks & Fleming, 1999).

Support for bottom-up paths can also be found, however. Changes in the relative proportion of daily positive and negative life events can shift well-being in a corresponding direction, at least in the short term (Robinson, 2000; Suh et al., 1996). And more serious changes in one's life situation – such as unemployment or disability – can have a lasting impact on well-being, even for multiple years (Diener et al., 2006). Furthermore, there are age-related changes in life satisfaction that are consistent with bottom-up rather than top-down influences (McAdams, Lucas, & Donnellan, 2012). Most notably, satisfaction with health decreases with age while satisfaction with income increases (McAdams et al., 2012). We can also alert the reader to more complex longitudinal models that either conclude that different life domains follow different models (Headey, Veenhoven, & Wearing, 1991) or that there are both top-down and bottom-up influences that are apparent in how people make domain satisfaction judgments (Lucas, 2004).

### **Future Directions**

Both social psychology (e.g., Schwarz & Strack, 1999) and personality psychology (e.g., Eid & Diener, 2004) have contributed to our understanding of how people make life satisfaction and happiness judgments. Nonetheless, there are under-explored sorts of manipulations that may be useful in this enterprise. As a way of studying motivational influences, Wojcik and Ditto (2014) told some participants that happiness was linked to positive outcomes (e.g., better relationships), but told other participants that happiness was linked to negative outcomes (e.g., unwarranted risk-taking). People tended to report greater happiness in the positive outcome condition than in the negative outcome condition, though such trends were particularly apparent at higher levels of self-enhancement. It seems to us that manipulations of this type can be used to study some of the motivational factors that have been implicated in the personality and culture literatures (Diener et al., 2003).

There are reasonable questions about whether people make life satisfaction judgments in more heuristic or more systematic ways (Schimmack & Oishi, 2005; Schwarz & Strack, 1999). We would guess that people use both sorts of strategies, and that the relative balance of the strategies may vary by person (e.g., as captured by need for cognition) and situation (e.g., as captured by time of day or cognitive busyness). Similarly, the relative influence of top-down (e.g., self-concept) and bottom-up (e.g., life events) factors in life satisfaction judgment could vary by factors such as self-esteem (Diener & Diener, 1995) or culture (Diener et al., 2003). Some clarity into these different routes to judgment could be achieved by manipulating processing style, how much time people have to respond, or by manipulating cognitive busyness (e.g., see Van Boven & Robinson, 2012). In an interesting study of this type, Trent and King (2010) asked participants to make meaning in life judgments either rapidly or thoughtfully. Meaning in life had different correlates under these different conditions and results of this type could be used to better understand the typical process of judgment. For example, if the correlates of untimed happiness judgments look more similar to a "rapid" condition than a "thoughtful" condition, one might conclude that heuristic strategies tend to dominate (for related work, see Erber et al., 1995).

Perhaps most straightforwardly, reaction time (RT) methods could be used more extensively in the happiness and well-being literature (Robinson & Compton, 2008). In one sort of paradigm, Robinson and Clore (2002b) showed that people switched from a data-driven to belief-based (top-down) judgment strategy when rating their emotions over the period of several weeks or longer. A similar relationship between time frame and judgment speed could occur for life satisfaction or happiness judgments. Priming-related paradigms can also be used. Bottom-up theories would be supported if judging one's satisfaction

with a specific life domain speeds judgments of life satisfaction in general; by contrast, top-down theories would be supported if the opposite pattern is found (for one application of similar logic, see Schell, Klein, & Babey, 1996). Finally, if life satisfaction is a type of attitude (Pavot & Diener, 1993), then cognitive models of attitude strength (Fazio, 1995) could be used in understanding it. Faster life satisfaction judgments are likely to implicate a top-down path to judgment that should be more particular to some individuals than to others. Among other consequences, this literature would lead us to predict that people making these judgments more quickly, in comparison to more slowly, should report levels of life satisfaction that are more stable over time (Fazio, 1995).

## Conclusions

In the introduction, we contrasted three different models of well-being judgment. According to a bottom-up, systematic model, people may carefully consider their standing in a number of life domains before making life satisfaction or happiness judgments (Campbell et al., 1976). According a second constructivist model, people may lack solid ideas about their general levels of happiness and therefore seize onto whatever happens to be accessible in the moment (Schwarz & Strack, 1999). According to a third model, people might judge their lives in the same way that they judge very familiar objects – by direct retrieval of their evaluations, potentially independent of corroborating evidence (Fazio, 1995). After having reviewed multiple sources of evidence, we are inclined to think that some combination of these models seems necessary, with strengths and weaknesses outlined in Table 1. People have very stable ideas about their happiness, consistent with the third model, but they are also responsive to changes in their lives, consistent with the first. Further attention to how people make these judgments could sharpen the models, in turn allowing us to understand how variations in culture, personality, and life events get translated into variations in well-being.

## References

- Andrews, F. M., & Withey, S. B. (1976). *Social indicators of well-being: Americans' perceptions of life quality*. New York: Plenum Press.
- Anusic, I., & Schimmack, U. (2016). Stability and change of personality traits, self-esteem, and well-being: Introducing the meta-analytic stability and change model of retest correlations. *Journal of Personality and Social Psychology, 110*, 766-781. doi: 10.1037/pspp0000066
- Anusic, I., Schimmack, U., Pinkus, R. T., & Lockwood, P. (2009). The nature and structure of correlations among Big Five ratings: The halo-alpha-beta model. *Journal of Personality and Social Psychology, 97*, 1142-1156. doi: 10.1037/a0017159
- Anusic, I., Yap, S. C. Y., & Lucas, R. E. (2014). Testing set-point theory in a Swiss national sample: Reaction and adaptation to major life events. *Social Indicators Research, 119*, 1265-1288. doi: 10.1007/s11205-013-0541-2
- Argyle, M. (1999). Causes and correlates of happiness. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology*. (pp. 353-373). New York: Russell Sage Foundation.
- Bargh, J. A., & Chartrand, T. L. (1999). The unbearable automaticity of being. *American Psychologist, 54*, 462-479. doi: 10.1037/0003-066X.54.7.462
- Baumeister, R. F., Heatherton, T. F., & Tice, D. M. (1994). *Losing control: How and why people fail at self-regulation*. San Diego, CA: Academic Press.
- Blanchflower, D. G., & Oswald, A. J. (2008). Is well-being U-shaped over the life cycle? *Social Science & Medicine, 66*, 1733-1749. doi: 10.1016/j.socscimed.2008.01.030
- Blore, J. D., Stokes, M. A., Mellor, D., Firth, L., & Cummins, R. A. (2011). Comparing multiple discrepancies theory to affective models of subjective wellbeing. *Social Indicators Research, 100*, 1-16. doi: 10.1007/s11205-010-9599-2
- Bolger, N., Davis, A., & Rafaeli, E. (2003). Dairy methods: Capturing life as it is lived. *Annual Review of Psychology, 54*, 579-616. doi: 10.1146/annurev.psych.54.101601.145030
- Bradburn, N. M. (1969). *The structure of psychological well-being*. Oxford, England: Aldine.
- 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. Doi: 10.1037/0022-3514.36.8.917
- Brief, A. P., Butcher, A. H., George, J. M., & Link, K. E. (1993). Integrating bottom-up and top-down theories of subjective well-being: The case of health. *Journal of Personality and Social Psychology, 64*, 646-653. doi: 10.1037/0022-3514.64.4.646
- Cacioppo, J. T., Gardner, W. L., & Berntson, G. G. (1997). Beyond bipolar conceptualizations and

- measures: The case of attitudes and evaluative space. *Personality and Social Psychology Review*, *1*, 3-25. doi: 10.1207/s15327957pspr0101\_2
- Campbell, A., Converse, P. E., & Rodgers, W. L. (1976). *The quality of American life: Perceptions, evaluations, and satisfactions*. New York: Russell Sage Foundation.
- Carstensen, L. L., Turan, B., Scheibe, S., Ram, N., Ersner-Hershfield, H., Samanez-Larkin, G. R., et al. (2011). Emotional experience improves with age: Evidence based on over 10 years of experience sampling. *Psychology and Aging*, *26*, 21-33. doi: 10.1037/a0021285
- Carver, C. S., & Scheier, M. F. (2014). Dispositional optimism. *Trends in Cognitive Sciences*, *18*, 293-299. doi: 10.1016/j.tics.2014.02.003
- Clark, A. E., Diener, E., Georgellis, Y., & Lucas, R. E. (2008). Lags and leads in life satisfaction: A test of the baseline hypothesis. *The Economic Journal*, *118*, 222-243. doi: 10.1111/j.1468-0297.2008.02150.x
- Conner, T. S., Tennen, H., Fleeson, W., & Barrett, L. F. (2009). Experience sampling methods: A modern idiographic approach to personality research. *Social and Personality Psychology Compass*, *3*, 292-313. doi: 10.1111/j.1751-9004.2009.00170.x
- Costa, P. T., & McCrae, R. R. (1980). Influence of extraversion and neuroticism on subjective well-being: Happy and unhappy people. *Journal of Personality and Social Psychology*, *38*, 668-678. doi: 10.1037/0022-3514.38.4.668
- Cummins, R. A. (2003). Normative life satisfaction: Measurement issues and a homeostatic model. *Social Indicators Research*, *64*, 225-256. doi: 10.1023/A:1024712527648
- Cummins, R. A. (2010). Subjective wellbeing, homeostatically protected mood and depression: A synthesis. *Journal of Happiness Studies*, *11*, 1-17. doi: 10.1007/s10902-009-9167-0
- Davies, S. E., Connelly, B. S., Ones, D. S., & Birklund, A. S. (2015). The General Factor of personality: The 'Big One,' a self-evaluative trait, or a methodological gnat that won't go away? *Personality and Individual Differences*, *81*, 13-22. doi: 10.1016/j.paid.2015.01.006
- Deaton, A., & Stone, A. A. (2016). Understanding context effects for a measure of life evaluation: How responses matter. *Oxford Economic Papers*, *68*, 861-870. doi: 10.1093/oeq/gpw022
- De Neve, J. E., Diener, E., Tay, L., & Xuereb, C. (2013). The objective benefits of subjective well-being. In J. Helliwell, R. Layard, & J. Sachs (Eds.), *World Happiness Report 2013*. New York: UN Sustainable Development Solutions Network.
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, *95*, 542-575. doi: 10.1037/0033-2909.95.3.542
- Diener, E., & Diener, M. (1995). Cross-cultural correlates of life satisfaction and self-esteem. *Journal of Personality and Social Psychology*, *68*, 653-663. doi: 10.1037/0022-3514.68.4.653
- Diener, E., Diener, M., & Diener, C. (1995). Factors predicting the subjective well-being of nations. *Journal of Personality and Social Psychology*, *69*, 851-864. doi: 10.1037/0022-3514.69.5.851
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, *49*, 71-75. doi: 10.1207/s15327752jpa4901\_13
- Diener, E., Kanazawa, S., Suh, & Oishi, S. (2015). Why people are in a generally good mood. *Personality and Social Psychology Review*, *19*, 235-356.
- Diener, E., Lucas, R. E., Oishi, S., & Suh, E. M. (2002). Looking up and down: Weighting good and bad information in life satisfaction judgments. *Personality and Social Psychology Bulletin*, *28*, 437-445. doi: 10.1177/0146167202287002
- Diener, E., Lucas, R. E., & Scollon, C. N. (2006). Beyond the hedonic treadmill: Revising the adaptation theory of well-being. *American Psychologist*, *61*, 305-314. doi: 10.1037/0003-066X.61.4.305
- Diener, E., Napa Scollon, C. K., Oishi, S., Dzokoto, V., & Suh, E. M. (2000). Positivity and the construction of life satisfaction judgments: Global happiness is not the sum of its parts. *Journal of Happiness Studies*, *1*, 159-176. doi: 10.1023/A:1010031813405
- Diener, E., Oishi, S., & Lucas, R. E. (2003). Personality, culture, and subjective well-being: Emotional and cognitive evaluations of life. *Annual Review of Psychology*, *54*, 403-425. doi: 10.1146/annurev.psych.54.101601.145056
- Diener, E., Sandvik, E., & Larsen, R. J. (1985). Age and sex effects for emotional intensity. *Developmental Psychology*, *21*, 542-546. doi: 10.1037/0012-1649.21.3.542

- Diener, E., & Seligman, M. E. P. (2004). Beyond money: Toward an economy of well-being. *Psychological Science in the Public Interest*, *5*, 1-31. doi: 10.1111/j.0963-7214.2004.00501001.x
- Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin*, *125*, 276-302. doi: 10.1037/0033-2909.125.2.276
- Diener, E., & Tay, L. (2014). Review of the Day Reconstruction Method (DRM). *Social Indicators Research*, *116*, 255-267. doi: 10.1007/s11205-013-0279-x
- Eid, M., & Diener, E. (2004). Global judgments of subjective well-being: Situational variability and long-term stability. *Social Indicators Research*, *65*, 245-277. doi: 10.1023/B:SOCI.0000003801.89195.bc
- Eiser, J. R., & de Mey, F. (1993). Judged happiness: Effects of mode of recall of positive and negative experiences. *Canadian Journal of Behavioural Science*, *25*, 314-323. doi: 0.1037/h0078779
- Erber, M. W., Hodges, S. D., & Wilson, T. D. (1995). Attitude strength, attitude stability, and the effects of analyzing reasons. In R. E. Petty & J. A. Krosnick (Eds.), *Attitude strength: Antecedents and consequences*. (pp. 433-454). Hillsdale, NJ: Erlbaum.
- Fazio, R. H. (1995). Attitudes as object-evaluation associations: Determinants, consequences, and correlates of attitude accessibility. In R. E. Petty & J. A. Krosnick (Eds.), *Attitude strength: Antecedents and consequences*. (pp. 247-282). Hillsdale, NJ: Erlbaum.
- Fiske, S. T., & Taylor, S. E. (1991). *Social cognition* (2<sup>nd</sup> ed.). New York: McGraw-Hill Book Company.
- Frey, B. S., & Stutzer, A. (2010). Happiness and public choice. *Public Choice*, *144*, 557-573. doi: 10.1007/s11127-010-9681-y
- Gerstorf, D., Ram, N., Estabrook, R., Schupp, J., Wagner, G. G., & Lindenberger, U. (2008). Life satisfaction shows terminal decline in old age: Longitudinal evidence from the German Socio-Economic Panel Study (SOEP). *Developmental Psychology*, *44*, 1148-1159. doi: 0.1037/0012-1649.44.4.1148
- Gigerenzer, G. (2015). *Simply rational: Decision making in the real world*. New York: Oxford University Press.
- Gilbert, D. T., Pinel, E. C., Wilson, T. D., Blumberg, S. J., & Wheatley, T. P. (1998). Immune neglect: A source of durability bias in affective forecasting. *Journal of Personality and Social Psychology*, *75*, 617-638. doi: 10.2139/ssrn.1028709
- Headey, B., Muffels, R., & Wagner, G. G. (2010). Long-running German panel survey shows that personal and economic choices, not just genes, matter for happiness. *PNAS Proceedings of the National Academy of Sciences of the United States of America*, *107*, 17922-17926. doi: 10.1073/pnas.1008612107
- Headey, B., & Wearing, A. (1989). Personality, life events, and subjective well-being: Toward a dynamic equilibrium model. *Journal of Personality and Social Psychology*, *57*, 731-739. doi: 10.1037/0022-3514.57.4.731
- Headey, B., Veenhoven, R., & Wearing, A. (1991). Top-down versus bottom-up theories of subjective well-being. *Social Indicators Research*, *24*, 81-100. doi: 10.1007/BF00292652
- Heidemeier, H., & Göritz, A. S. (2013). Individual differences in how work and nonwork life domains contribute to life satisfaction: Using factor mixture modeling for classification. *Journal of Happiness Studies*, *14*, 1765-1788. doi: 10.1007/s10902-012-9409-4
- Heine, S. J., Lehman, D. R., Markus, H. R., & Kitayama, S. (1999). Is there a universal need for positive self-regard? *Psychological Review*, *106*, 766-794. doi: 10.1037/0033-295X.106.4.766
- Heller, D., Judge, T. A., & Watson, D. (2002). The confounding role of personality and trait affectivity in the relationship between job and life satisfaction. *Journal of Organizational Behavior*, *23*, 813-835. doi: 10.1002/job.168
- Heller, D., Watson, D., & Ilies, R. (2004). The role of person versus situation in life satisfaction: A critical examination. *Psychological Bulletin*, *130*, 574-600. doi: 10.1037/0033-2909.130.4.574
- Hummert, M. L., Garstka, T. A., Shaner, J. L., & Strahm, S. (1994). Stereotypes of the elderly held by young, middle-aged, and elderly adults. *Journal of Gerontology*, *49*, 240-249. doi: 10.1093/geronj/49.5.P240
- Kahneman, D., Krueger, A. B., Schkade, D. A., Schwarz, N., & Stone, A. A. (2004). A survey method for characterizing daily life experience: The Day Reconstruction Method. *Science*, *306*, 1776-1780. doi: 10.1126/science.1103572
- Kim-Prieto, C., Diener, E., Tamir, M., Scollon, C., & Diener, M. (2005). Integrating the diverse definitions

- of happiness: A time-sequential framework of subjective well-being. *Journal of Happiness Studies*, 6, 261-300. doi: 10.1007/s10902-005-7226-8
- Knabe, A., Rätzl, S., Schöb, R., & Weimann, J. (2010). Dissatisfied with life but having a good day: Time-use and wellbeing of the unemployed. *Economic Journal*, 120, 867-889. doi: 10.1111/j.1468-0297.2009.02347.x
- Kobau, R., Sniezek, J., Zack, M. M., Lucas, R. E., & Burns, A. (2010). Well-being assessment: An evaluation of well-being scales for public health and population estimates of well-being among US adults. *Applied Psychology: Health and Well-Being*, 2, 272-297. doi: 10.1111/j.1758-0854.2010.01035.x
- Loewenstein, G., & Schkade, D. (1999). Wouldn't it be nice? Predicting future feelings. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology*. (pp. 85-105). New York: Russell Sage Foundation.
- Lucas, R. E. (2004). Top-down and bottom-up models of life satisfaction judgment. *Paper presented at the 6<sup>th</sup> international German Socio-Economic Panel Study user conference, Berlin, Germany*.
- Lucas, R. E. (2007). Adaptation and the set-point model of subjective well-being: Does happiness change after major life events? *Current Directions in Psychological Science*, 16, 75-79. doi: 10.1111/j.1467-8721.2007.00479.x
- Lucas, R. E., & Donnellan, M. B. (2011). Estimating the reliability of single-item life satisfaction measures: Results from four national panel studies. *Social Indicators Research*, 105, 323-331. doi: 10.1007/s11205-011-9783-z
- Lucas, R. E., Dyrenforth, P. S., & Diener, E. (2008). Four myths about subjective well-being. *Social and Personality Psychology Compass*, 2, 2001-2015. doi: 10.1111/j.1751-9004.2008.00140.x
- Lucas, R. E., & Lawless, N. M. (2013). Does life seem better on a sunny day? Examining the association between daily weather conditions and life satisfaction judgments. *Journal of Personality and Social Psychology*, 104, 872-884. doi: 10.1037/a0032124
- Lucas, R. E., Oishi, S., & Diener, E. (2016). What we know about context effects in self-report surveys of well-being: Comment on Deaton and Stone. *Oxford Economic Papers*, 68, 871-876. doi: 10.1093/oeq/gpw023
- Luhmann, M., Hawkey, L. C., & Cacioppo, J. T. (2014). Thinking about one's subjective well-being: Average trends and individual differences. *Journal of Happiness Studies*, 15, 757-781. doi: 10.1007/s10902-013-9448-5
- Lykken, D., & Tellegen, A. (1996). Happiness is a stochastic phenomenon. *Psychological Science*, 7, 186-189. doi: 10.1111/j.1467-9280.1996.tb00355.x
- Lyubomirsky, S., King, L., & Diener, E. (2005a). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin*, 131, 803-855. doi: 10.1037/0033-2909.131.6.803
- Lyubomirsky, S., Sheldon, K. M., & Schkade, D. (2005b). Pursuing happiness: The architecture of sustainable change. *Review of General Psychology*, 9, 111-131. doi: 10.1037/1089-2680.9.2.111
- Magnus, K., Diener, E., Fujita, F., & Pavot, W. (1993). Extraversion and neuroticism as predictors of objective life events: A longitudinal analysis. *Journal of Personality and Social Psychology*, 65, 1046-1053. doi: 10.1037/0022-3514.65.5.1046
- Marks, G. N., & Fleming, N. (1999). Influences and consequences of well-being among Australian young people: 1980-1995. *Social Indicators Research*, 46, 301-323. doi: 10.1023/A:1006928507272
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, 98, 224-253. doi: 10.1037/0033-295X.98.2.224
- McAdams, K. K., Lucas, R. E., & Donnellan, M. B. (2012). The role of domain satisfaction in explaining the paradoxical association between life satisfaction and age. *Social Indicators Research*, 109, 295-303. doi: 10.1007/s11205-011-9903-9
- McCrae, R. R., & Costa, P. T. (1994). The stability of personality: Observation and evaluations. *Current Directions in Psychological Science*, 3, 173-175. doi: 10.1111/1467-8721.ep10770693
- Michalos, A. C. (1985). Multiple discrepancies theory (MDT). *Social Indicators Research*, 16, 347-413. doi: 10.1007/978-3-319-51149-8\_3
- Myers, D. (1992). *The pursuit of happiness*. New York: Morrow.
- Myers, D. G., & Diener, E. (1995). Who is happy? *Psychological Science*, 6, 10-19. doi: 10.1111/j.1467-

9280.1995.tb00298.x

- Nisbett, R. E., & Wilson, T. D. (1977). Telling more than we can know: Verbal reports on mental processes. *Psychological Review*, *84*, 231-259. doi: 10.1037/0033-295X.84.3.231
- Oishi, S. (2002). The experiencing and remembering of well-being: A cross-cultural analysis. *Personality and Social Psychology Bulletin*, *28*, 1398-1406. doi: 10.1177/014616702236871
- Oishi, S., Whitchurch, E., Miao, F., Kurtz, J., & Park, J. (2009). Would I be happier if I moved? Retirement status and cultural variations in the anticipated and actual levels of happiness. *Journal of Positive Psychology*, *4*, 437-446. doi: 10.1080/17439760903271033
- Paulhus, D. L., & John, O. P. (1998). Egoistic and moralistic biases in self-perception: The interplay of self-deceptive styles with basic traits and motives. *Journal of Personality*, *66*, 1025-1060. doi: 10.1111/1467-6494.00041
- Pavot, W., & Diener, E. (1993). Review of the Satisfaction with Life Scale. *Psychological Assessment*, *5*, 164-172. doi: 10.1037/1040-3590.5.2.164
- Robinson, M. D. (2000). The reactive and prospective functions of mood: Its role in linking daily experiences and cognitive well-being. *Cognition and Emotion*, *14*, 145-176. doi: 10.1080/026999300378914
- Robinson, M. D., & Clore, G. L. (2002a). Belief and feeling: Evidence for an accessibility model of emotional self-report. *Psychological Bulletin*, *128*, 934-960. doi: 10.1037/0033-2909.128.6.934
- Robinson, M. D., & Clore, G. L. (2002b). Episodic and semantic knowledge in emotional self-report: Evidence for two judgment processes. *Journal of Personality and Social Psychology*, *83*, 198-215. doi: 10.1037/0022-3514.83.1.198
- Robinson, M. D., & Compton, R. J. (2008). The happy mind in action: The cognitive basis of subjective well-being. In M. Eid & R. J. Larsen (Eds.), *The science of subjective well-being*. (pp. 220-238). New York: Guilford Press.
- Robinson, M. D., & Oishi, S. (2006). Trait self-report as a 'fill in' belief system: Categorization speed moderates the extraversion/life satisfaction relation. *Self and Identity*, *5*, 15-34. doi: 10.1080/15298860500338708
- Rook, K. S., Charles, S. T., & Heckhausen, J. (2011). Aging and health. In H. S. Friedman (Ed.), *The Oxford handbook of health psychology*. (pp. 347-374). New York: Oxford University Press.
- Ross, M., Eyman, A., & Kishchuck, N. (1986). Determinants of subjective well-being. In J. M. Olson, C. P. Herman, & M. Zanna (Eds.), *Relative deprivation and social comparison*. (pp. 78-103). Hillsdale, NJ: Erlbaum.
- Saeki, M., Oishi, S., Lee, M., & Maeno, T. (2014). Life satisfaction judgments and item-order effects across cultures. *Social Indicators Research*, *118*, 941-951. doi: 10.1007/s11205-013-0463-z
- Schell, T. L., Klein, S. B., & Babey, S. H. (1996). Testing a hierarchical model of self-knowledge. *Psychological Science*, *7*, 170-173. doi: 10.1111/j.1467-9280.1996.tb00351.x
- Schimmack, U., Diener, E., & Oishi, S. (2002). Life-satisfaction is a momentary judgment and a stable personality characteristic: The use of chronically accessible and stable sources. *Journal of Personality*, *70*, 345-384. doi: 10.1111/1467-6494.05008
- Schimmack, U., & Oishi, S. (2005). The influence of chronically and temporarily accessible information on life satisfaction judgments. *Journal of Personality and Social Psychology*, *89*, 395-406. doi: 10.1037/0022-3514.89.3.395
- Schooler, J. W., Ariely, D., & Loewenstein, G. (2003). The pursuit and assessment of happiness can be self-defeating. In I. Brocas & J. Carrillo (Eds.), *The psychology of economic decisions*. (pp. 41-70). Oxford, UK: Oxford University Press.
- Schuman, H., & Presser, S. (1981). *Questions and answers in attitude surveys: Experiments in question form, wording, and context*. New York: Academic Press.
- Schwarz, N. (1999). Self-reports: How the questions shape the answers. *American Psychologist*, *54*, 93-105. doi: 10.1037/0003-066X.54.2.93
- Schwarz, N., & Clore, G. L. (1983). Mood, misattribution, and judgments of well-being: Informative and directive functions of affective states. *Journal of Personality and Social Psychology*, *45*, 513-523. doi: 10.1037/0022-3514.45.3.513
- Schwarz, N., & Clore, G. L. (1996). Feelings and phenomenal experiences. In E. T. Higgins & A. W.

- Kruglanski (Eds.), *Social psychology: Handbook of basic principles*. (pp. 433-465). New York: Guilford Press.
- Schwarz, N., & Strack, F. (1999). Reports of subjective well-being: Judgmental processes and their methodological implications. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology*. (pp. 61-84). New York: Russell Sage Foundation.
- Schwarz, N., Strack, F., Kommer, D., & Wagner, D. (1987). Soccer, rooms, and the quality of your life: Mood effects on judgments of satisfaction with life in general and with specific life domains. *European Journal of Social Psychology*, *17*, 69-79. doi: 10.1002/ejsp.2420170107
- Schwarz, N., Strack, F., & Mai, H. P. (1991). Assimilation and contrast effects in part-whole questions and sequences: A conversational logic analysis. *Public Opinion Quarterly*, *55*, 3-23. doi: 10.1086/269239
- Sedikides, C., & Gregg, A. P. (2008). Self-enhancement: Food for thought. *Perspectives in Psychological Science*, *3*, 102-116. doi: 10.1111/j.1745-6916.2008.00068.x
- Seidlitz, L., & Diener, E. (1993). Memory for positive versus negative life events: Theories for the differences between happy and unhappy persons. *Journal of Personality and Social Psychology*, *64*, 654-664. doi: 10.1037/0022-3514.64.4.654
- Sheldon, K. M., & Elliot, A. J. (1999). Goal striving, need satisfaction, and longitudinal well-being: The self-concordance model. *Journal of Personality and Social Psychology*, *76*, 482-497. doi: 10.1037/0022-3514.76.3.482
- Sheldon, K. M., & Lucas, R. E. (2014). *Stability of happiness: Theories and evidence on whether happiness can change*. San Diego, CA: Elsevier Academic Press.
- Sheldon, K. M., & Lyubomirsky, S. (2007). Is it possible to become happier? (And if so, how?). *Social and Personality Psychology Compass*, *1*, 129-145. doi: 10.1111/j.1751-9004.2007.00002.x
- Smith, T. (1982). Conditional order effects. *GSS Technical Report no. 33*. Chicago NORC.
- Strack, F., Martin, L. L., & Schwarz, N. (1988). Priming and communication: Social determinants of information use in judgments of life satisfaction. *European Journal of Social Psychology*, *18*, 429-442. doi: 10.1002/ejsp.2420180505
- Suh, E. M. (2000). Self, the hyphen between culture and subjective well-being. In E. Diener & E. M. Suh (Eds.), *Culture and subjective well-being* (pp. 63-86). Cambridge, MA: The MIT Press.
- Suh, E., Diener, E., & Fujita, F. (1996). Events and subjective well-being: Only recent events matter. *Journal of Personality and Social Psychology*, *70*, 1091-1102. doi: 10.1037/0022-3514.70.5.1091
- Tay, L., Chan, D., & Diener, E. (2014). The metrics of societal happiness. *Social Indicators Research*, *117*, 577-600. doi: 10.1007/s11205-013-0356-1
- Tourangeau, R., Rasinski, K. A., & Bradburn, N. (1991). Measuring happiness in surveys: A test of the subtraction hypothesis. *Public Opinion Quarterly*, *55*, 255-266. doi: 10.1086/269256
- Trent, J., & King, L. A. (2010). Predictors of rapid versus thoughtful judgments of meaning in life. *The Journal of Positive Psychology*, *5*, 439-451. doi: 10.1080/17439760.2010.534106
- Turner, C. (1984). Why do surveys disagree? Some preliminary hypotheses and some disagreeable examples. In C. Turner & E. Martin (Eds.), *Surveying the subjective phenomena* (Vol. 2, pp. 159-214). New York: Russell Sage.
- Van Boven, L., & Robinson, M. D. (2012). Boys don't cry: Cognitive load and priming increase stereotypic sex differences in emotion memory. *Journal of Experimental Social Psychology*, *48*, 303-309. doi: 10.1016/j.jesp.2011.09.005
- Wagner, G., Frick, J., & Schupp, J. (2007). The German socio-economic panel study (SOEP) – scope, evolution and enhancements. *Schmollers Jahrbuch*, *127*, 139-169. doi: 10.2139/ssrn.1028709
- Watson, D. (2000). *Mood and temperament*. New York: Guilford Press.
- Weinberg, M. K., Seton, C., & Cameron, N. (in press). The measurement of subjective wellbeing: Item-order effects in the personal wellbeing index-adult. *Journal of Happiness Studies*. doi: 10.1007/s10902-016-9822-1
- Wojcik, S. P., & Ditto, P. H. (2014). Motivated happiness: Self-enhancement inflates self-reported subjective well-being. *Social Psychological and Personality Science*, *5*, 825-834. doi: 10.1177/1948550614534699
- Yap, S. C. Y., Wortman, J., Anusic, I., Baker, S. G., Scherer, L. D., Donnellan, M. B., et al. (in press). The

effect of mood on judgments of subjective well-being: Nine tests of the judgment model. *Journal of Personality and Social Psychology*.



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