

The 3P Model: A General Theory of Subjective Well-Being

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Abstract Empirical research focusing on the field of subjective well-being has resulted in a range of theories, components, and measures, yet only a modicum of work leans towards the establishment of a general theory of subjective well-being. I propose that a temporal model of subjective well-being, called the 3P Model, is a parsimonious, unifying theory, which accounts for, as well as unites, disparate theories and measurements. The 3P Model categorizes the components of subjective well-being under the temporal states of the Present, the Past, and the Prospect (Future). The model indicates how each state is important to a global evaluation of subjective well-being and how each state is distinct yet connected to the other states. Additionally, the model explains how measures of subjective well-being are affected by cognitive biases (e.g., peak-end rule, impact bias, retrospective bias), which factor into evaluations of the temporal states, and meta-biases (e.g., temporal perspectives), which factor into global evaluations of life satisfaction. Finally, future research is recommended to further support the model as well as create interventions that can be chosen based on an individual's temporal preference or that can be designed to counteract certain biases.

Keywords Subjective well-being · Happiness · Emotion · Mood · Cognitive biases · Time perspective

*"Everyone wants continuous and genuine happiness."
Baruch Spinoza (1677/1985)*

The preceding quote from Spinoza epitomizes an individual's basic desire for sustainable happiness. Yet, this raises the question: How do we achieve continuous happiness? Within the field of psychology, understanding subjective well-being (SWB) is a topic of much discourse. In the last fifty years, there has been a concerted effort to empirically investigate SWB, from its correlations (e.g., Seidlitz and Diener 1993; Oishi et al. 2007), to

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forecasting affect (Gilbert 2006) to cross-cultural differences (Scollon et al. 2005). Yet, only a few have attempted to search for a unifying theory of subjective well-being (e.g., Brief et al. 1993; Feist et al. 1995; Kim-Prieto et al. 2005). My objective is to present a parsimonious model that can unite the various theories, components, and research on SWB under one general, temporal model. As we shall see, trifurcating subjective well-being into temporal building blocks presents a ubiquitous framework for SWB since time affects us all. We each possess a past, present, and future. The notion of time and temporal perspectives has only recently gained momentum in its association with understanding SWB. Yet, in the subsequent sections, we will investigate how the two are mutually inclusive. As an important side note, in this paper I will be using the term subjective well-being instead of terms such as happiness, life satisfaction, or quality of life. Diener (2006) defined SWB as an umbrella term for various types of evaluations, both positive and negative, that people make regarding their lives including evaluations of life satisfaction, engagement, and affect. Let us begin by investigating the current approaches to subjective well-being.

1 Current Approaches to SWB

Before explaining the 3P Model and the relationship of temporal perspectives and subjective well-being, let us begin by surveying the current literature on existing models, theories, and measurements of SWB.

1.1 Existing Theories

With very few universal theories of subjective well-being in existence, one can find many disparate theories and categorizations of SWB. In the following sections we will discuss some examples including, first, the Liking, Wanting, Needing theory; next, the Top-Down/Bottom-Up Factors; then, the Multiple Discrepancy Theory, the Orientations to Happiness Model (Pleasure, Engagement, Meaning), and finally the Mental Health Continuum Model.

1.1.1 *Liking, Wanting, Needing*

The first model that we will discuss divides the theories of happiness into three categories, the Liking, the Needing, and the Wanting theory. First, the Liking theory represents a hedonic focus. The Liking or Hedonic Happiness theory focuses on maximizing pleasure and minimizing pain (Peterson et al. 2005), which was purported by Aristippus who recommended immediate gratification as the path to a meaningful life (Watson 1895). Hedonic Happiness is the study of what makes events and life pleasant or unpleasant, interesting or boring, joyous or sorrowful (Kahneman 1999).

The needing classification of SWB purports that a set of elements that every human needs, regardless of his/her values, is essential to attaining subjective well-being. Maslow (1943) suggested that a hierarchy existed of five levels of basic needs—starting from physiological needs, safety, love/affection, self-esteem, to self-actualization—that must be satisfied in order, one after another. Wilson (1967) suggested basic universal needs exist; the prompt fulfillment of those needs causes happiness while the needs that are left unfulfilled result in unhappiness.

The third classification is the Wanting Theory, which suggests that subjective well-being is determined by the pursuit of desires or goals. This raises the question: Is subjective well-being derived from the journey or the destination? The wanting theory illustrates that

the journey (wanting) is more important than the destination (pleasure from fulfillment of the goal). Davidson (1994) distinguished affect gained from pre-goal attainment from that received through post-goal attainment. The prior concerns the pleasure gained when working towards the goal while the latter typifies pleasure from achieving the goal. Davidson presented that the most pleasure comes from the progress towards a goal rather than the fleeting feeling of contentment when the prefrontal cortex reduces its activity during the accomplishment of a goal.

1.1.2 Multiply Discrepancy Theory

A second model of subjective well-being suggests that we compare experiences or emotions to some standard. Wilson (1967) discussed that satisfaction from the fulfillment of needs depends on the degree of expectation and adaptation. Michalos (1985) explained in his multiple discrepancy theory of satisfaction that individuals compare themselves to many standards such as other people, past conditions, ideal levels of satisfaction, and needs or goals. A discrepancy due to an upward comparison (my expectation was better than the actual vacation) results in decreased satisfaction whereas a downward comparison (my expectation was worse than the actual vacation) will result in an increase in satisfaction.

1.1.3 Top-Down and Bottom-Up Factors

A third theory represents a dichotomous model for the causes of subjective well-being. Diener (1984) differentiated between top-down and bottom-up factors important to SWB. Diener et al. (1999) described bottom-up factors as external events, situations, and demographics. Veenhoven (1999) explained how the data on the average level of happiness in nations indicated that macro-social factors, such as wealth, freedom, and equality, together explain 63% of the difference in average happiness and mark off more or less livable societies. Additionally, Veenhoven (2004) showed that differences in Happy-Life-Years (HLY)—how long and happy people live in a country—can be explained by variations in societal characteristics (e.g. economic development, political democracy, and mutual trust). The explained variance for average happiness is high partly because there is less noise in average happiness ratings than individual ratings (Veenhoven 1999). For individual ratings, bottom-up factors can account for some variance but do not account for all of the variance. For instance, Andrews and Withey (1976) revealed that demographic factors (age, sex, income, education, race, marital status) accounted for only about 8% of the variance in SWB. Many researchers have favored the bottom-up model and have believed that SWB results from a linear additive combination of domain satisfactions such as marriage, work, and health (Andrews and Withey 1976; Argyle 1987; Campbell et al. 1976; Headey et al. 1985). Yet, other researchers have pointed out that domain satisfaction could be consequences rather than causes (Costa and McCrae 1980; Veenhoven 1988). In fact, Diener (1984) claimed that high inter correlations with domain satisfactions could be evidence for a top-down model. In a top-down model, subjective interpretations of events influence SWB as oppose to objective criteria (Feist et al. 1995). Top-down factors represent individual factors (such as values and goals) that trigger external events that influence well-being (Diener et al. 1999). In the top-down model, an individual's disposition filters and interprets specific, lower-order events (Feist et al. 1995). It is important to recognize the integration of these two theories when holistically understanding subjective well-being (Brief et al. 1993; Feist et al. 1995).

1.1.4 *Pleasure, Engagement, Meaning*

The fourth theory discussed here is the Orientations to Happiness Model. This theory presumes different ways to be happy (Guignon 1999; Peterson 2006; Russell 1930; Seligman 2006; Peterson et al. 2005). Seligman (2006) defined three roads to happiness, which included positive emotions and pleasure (the pleasant life), engagement (the engaged life), and meaning (the meaningful life). Peterson et al. (2005b) discovered that people choose different paths and that the most satisfied individuals are the ones who choose all three with an emphasis on engagement and meaning.

1.1.5 *Mental Health Continuum*

Finally the last model discussed is the ‘Mental Health Continuum: From Languishing to Flourishing’ (Keyes 2002), which proposed a gradient from ill-being to well-being. Keyes described individuals with complete mental health as ‘flourishing’ in life with high-levels of SWB. He defined the components of SWB as positive emotions and psychological and social well-being. Additionally, individuals with incomplete mental health are ‘languishing’ in life with low-levels of SWB.

1.2 Measuring Subjective Well-Being

Now that we have reviewed the existing theories of subjective well-being, let us move on to delineate the existing measurement and evaluations of SWB.

1.2.1 *Ways of Calculating Subjective Well-Being*

One early attempt at creating a formula for SWB denoted the formula created by Bentham (1789/1948) entitled the Hedonic/Felicific Calculus. It accounted for the intensity, duration, certainty, timing, and quality of the event and illustrated that subjective well-being was a balance of pleasure over pain. Another approach from Lyubomirsky et al. (2005) proposed the happiness formula $H = S + C + V$ that calculates your happiness (H) by your biological set point (S), plus the conditions of your life (C), plus your voluntary activities (V). A third approach comes from Diener (1984), who proposed that judgments of life satisfaction could be made by combining positive and negative affect with an assessment of how these moments measure up to one’s goals and aspirations. Finally, Davidson (1992) suggested that the brain might compute both the sum and the difference of the levels of activity in separate systems that mediate positive and negative affect.

1.2.2 *Ways of Measuring Subjective Well-Being*

Yet, attempting to calculate subjective well-being with one formula is no easy matter due to the numerous variables that can be included in the SWB formula. For instance, Kozma et al. (2000) found that certain measures of SWB reflect short-term (momentary emotions) and long-term (satisfaction and moods) components to different degrees. Additionally, variables represent measurements of evaluations from in the moment, to the aggregation of moments, to the memory of the event, to general assessments of daily, weekly, or over-all satisfaction. For example, the Experience Sampling Method (ESM) (Csikszentmihalyi 1990) measures affect by polling individuals in the moment while the Positive and Negative Affect Schedule (PANAS) (Watson et al. 1988), the Daily Reconstruction Method

(DRM) (Kahneman et al. 2004), and the U-Index (Kahneman and Krueger 2006) measure momentary affect through retro-evaluation. Other measurable variables that factor into an evaluation of subjective well-being include recall of an event, interpretation of the event, and one's mood (Seidlitz and Diener 1993). Well-being additionally can be assessed through psychological functioning (Ryff 1989) and social functioning (Keyes 1998). An approach from Van Praag et al. (2003) suggested that individual total SWB depends on six different subjective domain satisfactions: health, financial situation, job, leisure, housing, and environment. Finally, other global measurements of subjective well-being include the Happiness Measure (Fordyce 1977, 1988), the Satisfaction with Life Measure (SWLS) (Diener et al. 1985), and the Steen Happiness Inventory (Seligman et al. 2005).

1.2.3 *The Relationship Between These Variables*

Empirical analysis has uncovered the complexity of the relationships among these measures (Kim-Prieto et al. 2005). Currently, we can see that some components of subjective well-being correlate with global life satisfaction, but they do not account for all of the variance. For instance, Oishi et al. (2007) brought forth that the overall frequency of positive affect and negative affect correlated with global life satisfaction .30 and $-.04$ respectively. Thomas and Diener (1990) showed that the frequency of positive and negative affect correlated with recalled affect .50 and .58 yet the intensity of positive and negative affect correlated with recalled affect .02 to .62. According to Oishi et al. (2007), for happy individuals (as defined through the Fordyce Happiness measure), the frequency and interpretation of positive events correlated .41 and .27 but was uncorrelated with the frequency and interpretation of negative events (.00 and $-.02$). The findings for the unhappy group showed that happiness correlated with both the frequency and interpretation of positive events (.25 and .28) and negative events ($-.32$ and $-.50$). Seidlitz and Diener (1993) reported correlations of average happiness (average weekly PA/NA) and mood of .35 and correlations of current mood and average SWLS (average of two administrations of SWLS) of .27.

1.2.4 *SWB: One Temporal, Mutable Construct*

What can we learn from all of this data? First, we know that Bentham's notion of subjective well-being (1780/1948) as the balance of pleasure over pain is an oversimplification. While it is certain that these measures relate modestly, whether these measures assess separate constructs or one single construct with different degrees of error is not clear (Kim-Prieto et al. 2005). Yet, perhaps another explanation can account for this discrepancy. Kim-Prieto et al. suggested that SWB is a unitary construct that changes with the passage of time.

1.3 The Relationship Between Time and Subjective Well-Being

One must consider the passage of time when understanding the construct of SWB because a global evaluation of life satisfaction considers not only current proceedings, but also the moments that have occurred, as well as those yet to be. Since the human brain organizes events into the past, present, and future, SWB can also be considered in the past, present, and future (e.g., how happy I was, how happy I am, how happy I am going to be). Let us look at the existing literature regarding time and subjective well-being.

1.3.1 Current Research on Subjective Well-Being and Time

Many psychologists have researched the relationship between time and subjective well-being from different angles. Kahneman (1999) focused on investigating momentary utility (happiness from the moment) and remembered utility (happiness from the past). Rozin (2008a, b) illustrated that we gain happiness temporally through our experience, our memory, and our anticipation. Bryant (2003) investigated an individual's ability to savor (sustain) positive events from the past (reminiscing), present (savoring the moment), and future (anticipating). Gilbert and Wilson (2007) discussed our ability to pre-experience the future (prospexion) by simulating it in our minds and then use our prospexion to predict our future feelings of the event (affective forecasting). Additionally, some researchers have investigated the importance of temporal perspectives (our attitudes about the past, present, and future) on our behavior (e.g., James 1890; Lewin 1942; Fraise 1963; Zimbardo and Boyd 2008).

While a focus on time and measures of global SWB developed previously (Kilpatrick and Cantril 1960), these studies focused more on the components of SWB separately (Lucas et al. 1996; Diener et al. 1999; Kim-Prieto et al. 2005). A small body of literature focuses on a more united temporal construct.

1.3.2 Existing Temporal Frameworks

Recently psychologists have taken their research a step further by incorporating temporal components into a framework of subjective well-being. Kim-Prieto et al. (2005) developed a temporal framework for subjective well-being where SWB is considered sequentially from the experience of an event to the reactions to the event, on to the recall of the event, and finally to the incorporation into a global judgment about one's life. Diener et al. (1999) included a temporal distinction of past, present, and future in the construct of life satisfaction in their review of SWB literature. Pavot et al. (1998) suggested that a temporal distinction is necessary to describe the construct of global life satisfaction since the traditional SWLS closely correlates with the present (.92). The authors created the TSWLS (Temporal Satisfaction with Life Scale) where one measures happiness for each temporal state (e.g., how happy I was in the past, am in the present, and will be in the future). Finally, researchers suggest that a balanced temporal perspective (having a positive past, present, and outlook of the future) is crucial towards subjective well-being (Boniwell and Zimbardo 2003; Boniwell et al. 2010).

1.3.3 A Parsimonious Framework

While these models are necessary to understanding SWB because of the temporal incorporation into the framework, they have yet to unite under a parsimonious model. The 3P Model of subjective well-being draws upon these existing theories and current research in novel ways to create said inclusive framework. The objective of the framework is, firstly, to create a model that is generally applicable to all theories of SWB and unifies top-down and bottom up models. Secondly, the model serves to explain the relationship of momentary experiences with global evaluation and explain discrepancies in moving from one evaluation to the next. Thirdly, the framework will illustrate how the integration of happiness from each temporal state results in a meaningful, durable form of subjective well-being.

In the subsequent sections, I will explain the model in detail by discussing the temporal components of SWB as well as the biases that influence evaluations of subjective well-being. Next, I will cover the current research that supports this model and how the temporal states fit together to form a global evaluation of SWB. Afterward, I will discuss the mechanisms behind the model and meaningful happiness according to the theory. Finally, I will discuss the limitations of the model and future research needed to test this theory. Firstly, let us begin by highlighting a few key points and implications of the model.

2 The Key Points and Implications of the 3P Model

I would like to summarize a few key points first before explaining the 3P Model in detail in the following sections.

1. Since not all of our waking thoughts concern the present (Klinger and Cox 1987), our future and past thoughts as well as future and past selves must be considered in the definition of what it means to be happy. Thus, the model builds on the temporal states of the Past, Present, and Prospect.
2. Within each temporal state, long-term measures as well as short-term measures are to be considered (e.g., within the Prospect stage, we must consider happiness derived from one's sense of purpose as well as pleasure derived from one's desires).
3. Bryant (2003) suggested that happiness is concerned not just with the ability to feel pleasure but also with the capacity to regulate pleasure, find it, manipulate it, and sustain it. The framework of this general model builds on managing and maximizing happiness (as well as minimizing unpleasantness) as it morphs through time.
4. Cognitive biases (e.g., peak-end rule, impact bias, and retrospective bias) stymie our ability to maximize and maintain pleasure from one temporal state to the next as well as our ability to minimize and curtail pain.
5. SWB is evaluated by the maximization of happiness in each temporal state; however, meta-biases (e.g., personality) account for variations in our global assessment and cumulative assessments of SWB in all the temporal states.
6. The framework inhabits a cyclical model in which evaluations of the present influence past evaluations that affect future evaluations, which, in turn, factor into present evaluations, and so on.
7. Adaptation is the shift from events in our cognitive present to our cognitive past (e.g., a widow might not have adapted to the death of a spouse 2 years later because that loss occupies current thoughts).

Let us now continue by investigating the temporal building blocks of subjective well-being.

3 The 3P Model

3.1 Temporal Building Blocks

3.1.1 Temporal Thoughts

In order to understand why we need a temporal model to explain the components of subjective well-being, we first need to answer the question, "What influences our

happiness?” Lofty question—but it has a simple answer: *thought*. “Really, thought?” you might query. Why is this so? Actually, experience does not influence happiness; rather our thoughts (conscious or otherwise) about experiences influence happiness. While we live in the present, often our thoughts concern the other temporal states (the future and the past). For instance, Klinger and Cox (1987) found that about 12% of our daily thought concern the future. These thoughts of past experiences and future events can fill us with feelings of pleasure (thinking about that great meal you had last Tuesday or thinking about a trip to Disneyland) or unpleasantness (recalling the death of a loved one, or worrying about how much money you have or more likely don’t have for retirement).

The present seems to be the most important temporal state for our happiness because most often thoughts of the present steal our attention and thus are the most salient and accessible. However, the present thoughts alone cannot equate to global evaluations of life satisfaction. For instance, Csikszentmihalyi and Hunter (2003) revealed that although teenagers reported that studying creates less feelings of happiness than most other activities, the amount of time studying was positively related to subjective well-being: negative relationships at the momentary level might lead to a positive global evaluation.

Even within momentary evaluation of affect, frequency, and intensity, we find variance. Thomas and Diener (1990) discovered the correlation range of the frequency of positive versus negative emotions to be .50 to .58 respectively and correlations of positive and negative affect to intensity ranged from .02 to .62. Thus, momentary measures are related to global evaluation but only account for part of the variance in SWB. For example, Andrews and Withey (1976) found that life satisfaction formed a separate construct from positive and negative affect.

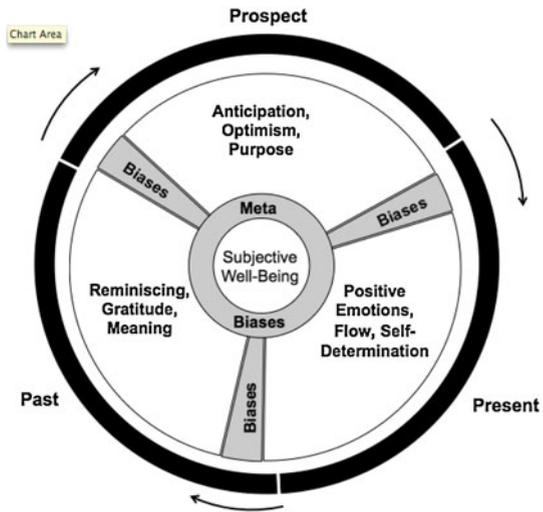
Pleasure originates not only from present thoughts but also from thoughts regarding the past (savoring and reflecting on memories) and future (planning and anticipating events). For instance, momentary evaluation can be mitigated by recall (short-term past evaluation) before arriving at global satisfaction (long-term past evaluation). Pavot et al. (1991) showed that recall of good versus bad events correlated .42 with global satisfaction with life.

Elster and Loewenstein (1992) stated that the concept of instant utility (pleasure from the present) should include current sensory experiences but also the pleasure and pain resulting from anticipating future events and remembering the past. Thus, theorists must use the temporal building blocks of the past, present, and prospect as an organizational framework for subjective well-being since SWB derives from pleasurable thoughts of all three. Let us take a moment to introduce these temporal states and their visual representation in the model.

3.1.2 Thoughts in Present, Past, Prospect

In the search for a parsimonious general model of subjective well-being, the first step denoted identifying the fundamental elements. These elegantly simple building blocks (as illustrated in Fig. 1) typify the three states of time: Past, Present, and Prospect (Future). These temporal components are distinct elements (Pavot et al. 1998), but when we view them collectively, the result is a global evaluation of SWB. As you can conclude from Fig. 1, during the temporal stages, happiness embodies varied forms. Some of these forms (as we shall see) are more meaningful and lasting than other forms (i.e., short-term versus long-term constructs). Kozma et al. (2000) discovered that various measures of SWB reflect short and long-term influences to differing degrees. Let us investigate each of these components in more detail starting with the component of the Present.

Fig. 1 The 3P Model of the components of subjective well-being



3.1.3 Present

We will begin with the state that occupies most of our thoughts, the present. Now, while we live in the present, we know that the present is ephemeral. With very few exceptions, the moments in the present simply disappear (Kahneman and Riis 2005). Moods and emotions represent affect, which characterizes people's on-line (in the moment) evaluations of events (Diener et al. 1999). Present affect can be positive or negative and researchers should measure these two independent factors separately (Bradburn and Caplovitz 1965). Stallings et al. (1997) supplied that the experience of daily pleasurable events related to pleasant affect and the experience of daily undesirable events related to unpleasant affect.

One form of happiness in the present leads to a greater satisfaction with life over pleasure in the present: engagement (Peterson et al. 2005b), also known as flow (Csikszentmihalyi 1990). Flow can be described as mindfulness—the state of being completely lost in the present without worry of the future evaluation of the event. Another form of meaningful happiness in the present is achievement. Should achievement be placed in the present component or the prospect component? Davidson (1994) distinguished between pre-goal attainment and post-goal attainment positive affect. He uncovered that more pleasure comes from the progress towards a goal, which results in greater increases in prefrontal cortex activity, than the ephemeral high from the actual achievement of the goal, which results in the reduction of the prefrontal cortex activity. Related to achievement is self-efficacy and self-determination. Bandura (2000) defined self-efficacy as one's belief in his/her ability to succeed in specific situations. As one possesses more self-efficacy in a particular area, one is more likely to work towards goals and challenges in that domain than to avoid them. Ryan and Deci (2000) explained in Self-Determination Theory that intrinsic motivation, which refers to the performance of an activity for the inherent satisfaction of the activity itself, leads to the positive potential of human nature.

With each temporal state, distal as well as proximal factors are at play. For instance, affect from a good or bad event would be categorized as a proximal factor while genes, and other external circumstances, can be defined as distal factors. Some accounts have found

that demographic factors (distal factors) accounted for less than 20% of the variance in SWB (Campbell et al. 1976).

3.1.4 Past

Kahneman and Riis (2005) called it a basic tenant that we only keep the memories of our experience; thus we view our lives from the perspective of our remembering self. Happiness from the past temporal state refers to happiness obtained from thoughts of and feelings about our past. Components of subjective well-being in the past run the range of temporary feelings of pleasure to more meaningful forms of happiness. A rather short-term form of happiness that can develop into significant happiness with habituation is savoring the past, known as reminiscing. Bryant (2003) studied how pleasure in the present can be generated, intensified, and prolonged through reminiscing about past positive events after the event transpires, and additionally how reminiscing aids in developing the self-concept. Fallot (1980) stated that positive reminiscing could also give one a sense of temporal continuity. Park et al. (2004) discussed how gratitude connects one happily to the past. Gratitude can contribute either to pleasure or to life satisfaction (Peterson et al. 2007) when performed inveterately. A more lasting form of happiness in the past comes from a sense of meaning. I have included meaning in the past temporal state because a sense of meaning is the ability to understand one's own experiences, themselves, and the world around them (Steger et al. 2008). Research by Moran et al. (2009) yielded that having a sense of meaning in one's life correlated with life satisfaction by .41.

3.1.5 Future

A future temporal focus is important to SWB (Pavot et al. 1998). The future component of subjective well-being contains forms of SWB ranging from anticipation, to goals, to purpose. First, Bryant (2003) showed how people could generate and amplify pleasure before an upcoming event through anticipation. Next, Austin and Vancouver (1996) showed that individual behavior is best understood by looking into people's typical aspirations. As mentioned before, just looking towards the future and moving towards one's aspirations can be more important than the actual end-state of goal attainment (Carver et al. 1996; Csikszentmihalyi 1990). Emmons (1986) found that having goals, making progress towards the goal, and a lack of conflict among the goals predicted SWB. Brunstein (1993) showed that a higher level of commitment towards a goal contributed to higher SWB. Commitment to goals benefits the individual through personal agency and a sense of structure and meaning to daily life (Diener et al. 1999). In fact, personal distal factors such as income, intelligence, and social skills predicted SWB only if they related to the person's goals (Diener and Fujita 1995; Crawford-Solberg et al. 2002). Kasser and Ryan (1993, 1996) found that intrinsic aspiration (goals such as affiliation, personal growth, and community) was positively associated with indicators of well-being such as self-esteem and self-actualization whereas extrinsic aspiration (e.g. wealth, fame, and image) was negatively related to the well-being indicators. Sheldon and Kasser (1998) showed that regarding attainment of goals, the attainment of intrinsic goals enhanced well-being whereas attainment of extrinsic goals provided little benefit. Third, Snyder (2000) espoused the importance of hope to life satisfaction. Current findings demonstrated that a positive outlook could influence how an individual copes with negative events (Scheier and Carver 1985; Lazarus et al. 1980; Seligman 2006). Finally, having a purpose represents one important component in the future state. Moran et al. (2009) found that having a purpose in

one's life correlated with life satisfaction by .46. Boyle et al. (2009) noted that a greater purpose in life is associated with a reduced risk of all-cause mortality among community-dwelling older persons. Now, that we have a better understanding of the individual temporal components, let us look closer at how subjective well-being is evaluated in each state.

3.1.6 Temporal Assessments

As we see from Fig. 2, measurements of subjective well-being are logically categorized in the same temporal states: Experience measures SWB in the Present, Evaluation measures SWB in the Past, and Expectation measures SWB in the Prospect state. A list of examples of constructs and measurements in each temporal state are featured in Table 1.

3.1.7 Experience

This category of measurement appraises moment-to-moment happiness. Kahneman (2000) referred to an assessment of experience as the sign and intensity of affective/hedonic experience at a given moment in time, which is known as momentary utility. Within the present state, many forms of evaluation offer themselves, including the Experience Sampling Method (Csikszentmihalyi 1990), assessment of positive and negative affect with the PANAS (Watson et al. 1988), and the Daily Reconstruction Method, which takes the form of evaluation but is actually used to access the moment (Kahneman et al. 2004). Kahneman et al. (2004) suggested, to measure experienced utility, the respondent can indicate whether he/she feels impatient for their current situation to end or if they prefer for it to continue. To assess an aggregation of momentary utility, one can use the U-index, which measures the amount of time an individual spends in an unpleasant state (Kahneman and Riis 2005).

3.1.8 Evaluation

In evaluation, the individual is measuring an event or sequence of experiences based on reflection. Kahneman (2000) included two types of utility that fall into evaluation: evaluation of a utility profile and remembered utility. Kahneman stated that evaluation of a

Fig. 2 The 3E Model of the measurements of subjective well-being

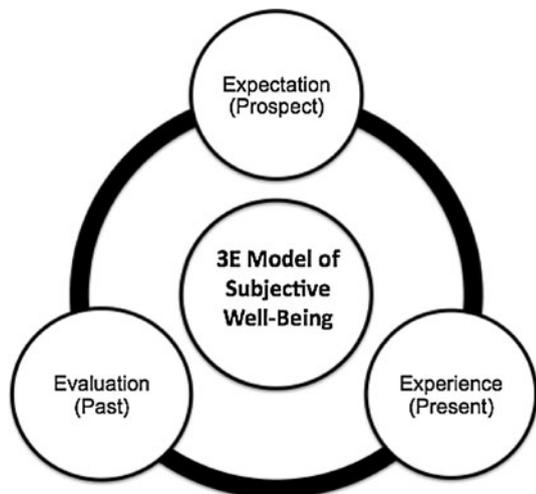


Table 1 Examples of measurements in each temporal state

Present		Prospect		Past	
Construct	Measurement	Construct	Measurement	Construct	Measurement
Affect (PA/NA)	PANAS (Watson et al. 1988)	Anticipation	Savoring beliefs inventory (Bryant 2003)	Happiness	Happiness measure (Fordyce 1988)
Experienced utility	ESM, DRM (Csikszentmihalyi 1990; Kahneman et al. 2004)	Goals	Orientation of life goals scale (Roberts and Robins 2000)	SWB	SWLS (Diener et al. 1985)
Unpleasantness	U-Index (Kahneman and Riis 2005)	Purpose	Purpose in life subscale (Ryff 1989)	Meaning	Meaning in life questionnaire (Steger et al. 2006)

utility profile is an observer's judgment about the overall utility of an experience, whereas, remembered utility is a subject's own global evaluation of a past experience. The Satisfaction with Life Scale, SWLS, measures global evaluation of the past (Diener et al. 1985). Notably, just as components of temporal states can include proximal versus distal components, likewise measurements of SWB can reflect short and long-term influences in different degrees (Kozma et al. 2000). Evaluation, can be argued, is the most critical temporal measurement. Kahneman and Riis (2005) placed much emphasis on evaluation since SWB concerns the remembered self, when one must consider the question: how satisfied am I with my life as a whole?

3.1.9 Expectation

This category measures the utility gained from thinking about future events. As is the case with the other temporal states, these measurements can be short-term or long-term components of subjective well-being. Bryant (2003) refers to one short-term component as anticipation—looking forward to a good event. Other measures can assess an individual's positive outlook on the future, such as optimism (Seligman 2006). Other assessments focus on long-term components of subjective well-being within the prospect stage. These can include components such as one's sense of purpose in life (Ryff 1989) and life goals (Roberts and Robins 2000).

We know that happiness can be derived through thoughts of the present, past or prospect, but what happens when thoughts of a current experience are compared to thoughts about the past or the future? Will those two sets of thoughts be equivalent? Oftentimes they are not. For instance, a surprising finding emerged from studies of momentary happiness: although parents expressed that they gain joy from their children, they often experienced unpleasantness when actually spending time with their children (Kahneman et al. 2004). What's going on here? Should not the thoughts of momentary experiences be equivalent to the past evaluation? The reason for the discrepancy originates from cognitive biases.

3.1.10 Cognitive Biases

What are cognitive biases? Cognitive biases are patterns of errors in judgment that occur in particular situations. Biases stem from heuristics (rules of thumb), designed for us to make

quick decisions by relying on simple rules rather than considering all of the factors (Kahneman et al. 1982). These cognitive biases factor into our evaluations of subjective well-being. As we can see, biases exist between all temporal states (as illustrated in Fig. 1). Let us begin by discussing those types of biases.

3.2 Biases Between Temporal States

Discrepancies exist between judgments of SWB of each temporal state. This model demonstrates that obstacles prevent information from transferring unchanged from one temporal state to another. As you can see from Fig. 1, between each temporal state resides a channel. These channels, I refer to as cognitive biases. Psychologists have researched many of these biases between temporal states. For instance, Kahneman (2000) described psychological rules that influence evaluating past utility while Gilbert (2006) demonstrated distortions looking forward. Many types of cognitive biases can manipulate the passing of information between temporal states. The following section is not an exhaustive list but will identify some important universal biases that affect the judgments of SWB from temporal state to temporal state.

3.2.1 *Biases Between Experience and Evaluation (Present and Past)*

Many factors contribute to the discrepancy between our evaluation of the present and the past. Fredrickson and Kahneman (1993) showed how people favor a long unpleasant period if the episode ends on a milder note, a bias known as duration neglect. Additionally, they showed how we abide by peak-end rule: when evaluating an episode, people rely heavily on how the event ends, as well as the peak moment. Diener, Wirtz, and Oishi (2001) discussed the ‘James Dean Effect’: a wonderful life that ends abruptly is rated more positively than a wonderful life with additional mildly pleasant years (the addition of a less intense ending to the wonderful life). The authors also described the ‘Alexander Solzhenitsyn Effect’: a terrible life with moderately bad years attached to the end was rated as more desirable than the terrible life that ends abruptly without the moderately bad years at the end.

Strack et al. (1985) showed that respondents included accessible, recent events in the evaluation of their current lives, but if the event was distant (5 years ago or more), they used the event as a standard of comparison when evaluating their current satisfaction. Festinger and Carlsmith (1959) showed that people would reevaluate their engagement in a task if they needed to justify the time spent on attributing meaning to the event. Taylor (1991) found that people expertly reconstruct events in their favor after they occur.

3.2.2 *Biases Between Evaluation and Expectation (Past and Prospect)*

Other factors contribute to the variability between past and future judgments of subjective well-being. For instance, we neglect to factor in duration when making choices about repeating unpleasant experiences (Kahneman et al. 1993; Schreiber and Kahneman 2000). Additionally, we tend to overestimate the magnitude and generality of the positive or negative feeling generated by an event when predicting future events (Brickman et al. 1978). Wilson et al. (2003) identified that we predict the future poorly because of retrospective impact bias, the circumstance when we overestimate the impact of past events on our well-being. The authors additionally found that the impact bias, the tendency to

overestimate the affective impact of future events, may be influenced partially by people's reliance on salient but unrepresentative memories of the past.

3.2.3 Biases Between Expectation and Experience (*Prospect and Present*)

When making predictions about the future, we consider not only the present but also the transition to the present. As we shall see, many cognitive biases result from comparisons and the resulting discrepancies. Counterfactual thinking also affects SWB (Roese 1997; Roese and Olson 1995). Counterfactual thinking can be used as a means of comparison for evaluating the present. Kahneman and Miller (1986) explained how, in norm theory, reality is continuously experienced in a context of relevant counterfactual alternatives, each scenario evoking representations of what could have been and what was expected to be. The easier it is to construct a counterfactual scenario, the more the comparison affects the evaluation of subjective well-being. For instance, Medvec et al. (1995) demonstrated that winners of Olympic bronze medals reported more satisfaction than silver medalists probably because it is easier to imagine not having received any medals at all, while for the silver medalists it is easier to imagine winning the gold. Often discrepancies between one's aspirations and actual standing contribute to SWB evaluation (Markus and Nuris 1986).

A prediction of a person's initial reaction to a new situation is incorrectly used as a proxy to forecast the long-term effects of that situation (Kahneman 2000). Cohn (1999) identified the transition rule in forecasts of well-being due to winning the lottery and becoming paraplegic. His research showed that in the absence of direct knowledge, people forecast well-being in a long-term state by forecasting the affective impact of the transition to that state. Kahneman (1999) explained, when an episode is considered 'ex ante,' then the initial moment of the episode and the transition to the new state dominate the evaluation, but when an episode is considered 'ex post,' people evaluate a future state by evaluating the transition to this state.

Kahneman et al. (2006) demonstrated that errors in predicted utility resulting from the heuristic of evaluating states by moments are amplified by a systematic overweighting of certain aspects of the new state; a phenomenon known as the focusing illusion. Kassam et al. (2008) found that people may mistakenly expect to experience less intense affect when an event transpires in the future than when the same event happened in the present. Gilbert et al. (1998) showed that individuals often do not realize the extent to which they will reconstruct an event when predicting how they will feel about it. Gilbert et al. (1998) discovered that people tend to overestimate the duration of their feelings about negative events because they underestimate their immunity to negative affect, known as immune neglect. Finally, we fall prey to a common key bias between our future and our present self if we think that we will like what we want. However, wanting and liking are two different constructs that are not mutually inclusive (Berridge 1999). Berridge (1999) discussed how wanting could be eliminated while still preserving liking. Moreover, Wyvell and Berridge (2000) uncovered that wanting (incentive salience) could be increased without increasing liking (hedonic reaction).

3.3 Meta-Biases

If we look at Fig. 1, we can see that not only do biases exist between temporal states, but also one specific type of biases exists along the circumference of the core of the circle, where SWB is evaluated. This type of bias is called a meta-bias, but also has been called a trait-level bias, external circumstance, or a bottom-up factor (Diener et al. 1999). Schwarz et al. (1987) suggested that people access domain-specific information when evaluating specific

life-domains but rely on heuristic cues when evaluating their SWB as a whole. These heuristic cues can stem from meta-biases. For instance, personality is considered a meta-bias.

3.3.1 *Personality*

Personality is one main meta-bias, specifically extraversion and neuroticism. Fujita (1991) observed that extraversion correlated with positive affect by .71 and that negative affect was proven indistinguishable from neuroticism. Kahneman and Krueger (2006) described how measures of temperament and personality typically account for much more variance of reported life satisfaction than do life circumstances (e.g., measures of psychological depression are highly correlated with life satisfaction). Magnus and Diener (1991) found that personality predicted life satisfaction 4 years later, even with controlling for the effect of intervening life events.

Additionally, some individuals habitually interpret many life events negatively whereas others interpret them positively (Myers and Diener 1995). Oishi et al. (2007) realized that, for happy people, subjective well-being was correlated with the incidence and interpretation of positive events (.41 and .27, respectively) but was uncorrelated with the incidence and interpretation of negative events (.00 and $-.02$, respectively), whereas for unhappy people, subjective well-being was correlated with the incidence and interpretation of both positive events (.25 and .28, respectively) and negative events ($-.32$ and $-.50$, respectively).

3.3.2 *Temporal Salience*

Temporal salience represents another meta-bias. Schwarz and Strack (1991) showed how evaluations of global well-being and life satisfaction could be significantly affected by minor changes in the wording of a question or how one feels at the time of evaluation. Reported life satisfaction can also be influenced by little things such as finding a dime on the copy machine (Schwarz et al. 1987) and by the current weather (Schwarz and Clore 1983). Bower (1981) showed how moods could increase the accessibility of mood-congruent information in recall. Thus, thinking about one's life while in a positive mood, one may selectively retrieve good aspects of one's life and consequently come forth with a more positive evaluation (Schwarz and Strack 1991).

3.3.3 *SWB Stability and Adaptation*

The literature suggested that a remarkable feature of SWB is its stability (Cummins 2010). Headey and Wearing (1989) explained in their 'Dynamic Equilibrium Model' (DEM) that SWB levels maintained consistent in the absence of significant life events, and that if an event resulted in a change of SWB, over time it returned to the previous level. In the DEM, the primary purpose of managing SWB stability is to maintain self-esteem. They called this positive sense of SWB as 'Sense of Relative Superiority' since people tend to view their subjective life experiences as better than average. The desire to maintain SWB stability represents an important meta-bias.

Stones and Kozma (1991) proposed in their 'Magical Model of Happiness' that SWB maintains stability around a 'set-point' and that the best predictor of future SWB is past levels of SWB. Cummins (2010) described in his 'Homeostatis Model' that mild threats can cause the level of SWB to vary within its set-point range and as the strength intensifies, the strength of one's homeostatic defenses increase to maintain SWB stability.

Adaptation to set-point levels represents this extremely influential meta-bias. Adaptation affects not just global SWB evaluations but also individual temporal evaluations. Research on adaptation has shown that we adapt quickly to positive and negative changes eventually returning to a baseline level of happiness (Brickman and Campbell 1971; Kahneman 1999; Lykken and Tellegen 1996). Cummins (2010) described how at the time of SWB evaluation, a powerful emotional state can dominate awareness and overwhelm homeostasis. Moreover, people adapt more quickly to an easily comprehensible and explicable event than to an inexplicable event (Wilson et al. 2005).

Diener et al. (1999) stated that a complete theory of subjective well-being must explain the effects of the temporal context of events, adaptation, what is responsible for adaptation, and what accounts for a person's inability to adapt. The 3P model can address these concerns by discussing how someone discerns the fine line between the past and the present. When well-being is evaluated, recent events usually have a greater effect than those in the past (e.g., Headey and Wearing 1989; Suh et al. 1996). In other words, events closer to the present influence evaluation more than those in the past.

Adaptation relates to attention. Thus if an event happened in the past, yet still occupies an individual's present thoughts, the individual might not adapt quickly to the event because the event has not transitioned from the present to the past. This explains Stroebe et al. (1996) findings that after two full years, people who were widowed showed higher average depression levels than non-bereaved persons, although depression rates did decline over this period. The transition (or lack thereof) from the present to the past is a matter of attention. Riis et al. (2005) found that in patients in the end-stage of renal dialysis had no significant differences in average mood throughout the day than the comparison group. Thus, these patients adapted to their momentary experiences. Kahneman and Krueger (2006) stated that this could be the result of attention, whereby these circumstances occupy the individual's attention for a waning portion of the time as they gradually lose their novelty. Thus, the more the circumstance loses novelty, the more it loses a portion of the time in one's attention, the more it fade from one's attention, the more it drifts into the past.

3.3.4 Cultural Biases

Moreover, meta-biases stem from cultural influence as well. Schimmack et al. (2002) showed that Japanese-American students report lower levels of well-being than white American students in retrospective (evaluative) reports, but equivalent levels in momentary (experiential) reports. Additionally, Oishi et al. (2007) explained that it took close to two positive events to mitigate one negative event for European Americans, only 1.3 positive events for Asian Americans and Koreans, and only one positive event for Japanese test subjects to mitigate a negative event.

Although, personality, temporal salience, adaptation, and cultural influences represent intrinsic types of meta-biases, one classification, potent yet understudied, has yet to be mentioned. In the following section, we will investigate the meta-bias of temporal perspectives and its fundamental influence on global evaluations of life satisfaction.

3.4 Temporal Perspectives

Let us begin by defining temporal perspectives. Time perspective represents an individual's style of relating to the psychological concepts of the past, present, and future (Lennings 1996). Zimbardo and Boyd (2008) described time perspective as the often

unconscious personal attitude towards time and the process whereby the continual life flow is categorized into temporal states that help to give order, coherence, and meaning to our lives.

Boniwell et al. (2010) suggested that temporal perspectives could be differentiated in three different ways. Firstly, it can represent people's positive or negative attitude towards that state (temporal attitudes). Secondly, it can reflect in which temporal state people tend to cognitively spend their time (temporal preferences). Finally, it can reflect the strategic decision-making process involved in weighting benefits of one particular state over another (perceived utility). Thus, when making temporal decisions, one can factor in their preference towards a state, their evaluation of the state, and their perceived utility from that state.

3.4.1 *Temporal Attitudes*

Zimbardo et al. published the Zimbardo Time Perspective Inventory (ZTPI) (1997) and Zimbardo and Boyd published the Transcendental-future Time Perspective Inventory (TFTPI) (1999) identifying six time perspectives: past-positive, past-negative, present-fatalistic (belief that fate determines one's life), present-hedonistic (pleasure in the present), future (concerned and conscientious about future consequences), and transcendental future (belief that death is a new beginning). The past perspectives represent someone's evaluation of a state, while the other four perspectives represent one's temporal preference. Bryant (2003) explained that savoring represents a belief in one's perceived ability to control positive emotions, which is independent of one's perceived ability to control negative emotions. Bryant continued by explaining that individuals can differ in their capacity to savor different temporal states: whereas some look forward to upcoming positive events (anticipators), others are present-focused (savoring the moment); yet others enjoy thinking about positive events that already transpired (reminiscing).

3.4.2 *Temporal Preference*

We can categorize people by their temporal preference: Dreamer, Doer, and Documenter. The dreamer finds the most happiness as he expects and plans for an event, hopes for an event, and/or anticipates an event. The Doer finds the most happiness in the feeling of the experience and in being in the moment. Finally, the Documenter gains the most happiness when processing the experience and understanding its meaning. I would suggest that a person might have a combination of all these styles but that often one style dominates the others.

These beliefs on savoring can emerge from preferred temporal states or from the inability to enjoy positive emotions in a certain state. For instance, Bryant (2003) explained how an ephemeral view of the present could prevent savoring in the moment and spread to the inability to rekindle those positive emotions afterwards, some might dread the future rather than look forward to it, and others might feel disconnected from their past and thus unable to recall positive events.

Because subjective well-being is divided into three temporal states and we measure our SWB in each state based on the pleasure derived from expecting, experiencing, or evaluating, we need to understand on which state(s) our attention is focused. Our preferences towards a certain state influence our overall subjective well-being—a poignant insight especially in regard to aging and the moribund state. A person on her deathbed, for example, focuses her attention on weighting judgments of experience (affect from dying)

with evaluation (assessing her sense of meaning in life). If she had a proclivity towards only focusing on experience, then she would not be happy on her deathbed because she would be focusing more on the experience of dying than her sense of meaning from her life. Yet, if the person had a tendency to find happiness in evaluation and evaluated her life as fulfilling, then she would feel comfortable weighing that against the salience of mortality and find peace while dying.

3.4.3 Perceived Utility

Finally, temporal preferences can be evaluated based on perceived utility. Ben-Shahar (2007) described in his ‘Hamburger Model of Happiness’ that we make decisions (evaluate temporal utility) about what makes us happy not only based on the experience of the event but also the future consequences of that experience.

Rozin (2008a, b) illustrated this deliberate weighting when we must choose between a familiar experience and an unfamiliar experience. Rozin stated that novelty improves the Remembered State but threatens anticipation and experience because the outcome is less predictable. Although familiar experience seems to provide more positive experiences, some individuals choose new experiences over familiar experiences. And, why is this so? Perhaps individuals have a predilection or weighting towards one state over the other. For instance, an individual might gain more joy from anticipation than from reminiscing and thus might choose the novel experience.

Simons et al. (2004) explained in ‘Future Time Perspective’ (FTP) theory that the degree to which people are able to foresee the future implications and usefulness of their present behavior differs for individuals. Individuals with extended FTP set motivational goals in the distant future and develop a long-range path to achieve these goals (De Volder and Lens 1982). For individuals with extended FTP, present actions acquire higher utility value (Eccles and Wigfield 2002) and are perceived as more instrumental (Miller et al. 1999) because they are able to anticipate future goals. Because the anticipated value of the future goal is higher, individuals with extended FTP view their present task as more engaging (Simons et al. 2004).

Remarkably, Boyd and Zimbardo (1997) disclosed that, in one’s evaluation of perceived utility, many individuals partition the psychological future into pre- and post-death. Additionally, Simons et al. (2004) described how motivational goals can vary from short to long with some final goals extending beyond the individual’s lifetime (e.g. saving money for one’s funeral). Thus, the post-death future (or transcendental future) factors into subjective well-being decision making.

To recapitulate, thus far we have examined how thoughts are temporal (focus on the present, past, and prospect) and that a class of thought known as cognitive biases and meta-biases results in discrepancies between temporal evaluations of the same experience, as well as between temporal evaluations and global evaluations. As you can see, we have begun to explore how the panoply of thoughts from different temporal states interacts to form evaluations of life satisfaction. Now, let us investigate how new thoughts mutate our protean ideology.

3.5 The Interplay of Temporal Thoughts

Imagine a single drop of water falling into a glassy pool. The result—a wave of ripples extends across the water. The single pebble’s effect touches and changes the water (once placid) meters away. If we think of the pebble as one new thought added to our

consciousness (the pool) already filled with old thoughts (the placid water meters away), we can begin to imagine how a new thought entering into our consciousness can affect our evaluation of old thoughts.

3.5.1 *Re-Evaluation*

To explain this concept, let's say that you just stubbed your toe. Sure, you feel pain in the present, but it is not going to devastate you because you know that pain is finite and short-term. But, let's say that you were horseback riding, thrown from the horse, and have injured yourself. During the time of this event, the psychological pain is much worse than the pain of the toe-stubbing because at this moment, the negative emotions permeate from the connection of this event to thoughts of the past and the future. Because you are worried that you might become paraplegic, your thoughts might jump to memories of the time when you ran the Boston marathon or went salsa dancing with friends (past) and how you might not be able to do those things again (prospect). Thoughts can be sustained and amplified by its cognitive association with thoughts from other temporal states and from other experiences.

3.5.2 *The Power of Transfer*

Why is this so? The studies by Rozin and Royzman (2001) on the power of transfer might answer this question. The authors found that features of contagion include the ability of any property to be transferred, a permanence effect, and a negativity bias evidencing that negative contagion is more potent than positive. The authors showed how negative events can be easily transferred from a present experience to a past evaluation of that experience to future decisions on choices of actions.

The power of transfer applies to positive events as well. A positive event in the present can create a ripple effect on our past and future thoughts as well. For instance, if I was a pre-med student who had just found out that I got into a highly competitive medical school, I might reevaluate my negative thoughts of studying for the MCAT and perceive it as less unpleasant than before when I was studying for the test.

Additionally, pleasure from a new thought builds on past pleasant thoughts. For instance, Kahneman and Riis (2005) illustrated how certain moments are privileged because they acquire special significance by affecting the utility of other moments (e.g., graduating from college is both anticipated for an extended time prior and recalled frequently after the fact). The significance of an event can be increased through consciously extending the pleasure of the experience to the other temporal states.

However, there is one caveat worth mentioning. Oishi et al. (2007) suggested that as one's global life satisfaction increases, the potency of each negative event increases as well (negative events become aberrant and more salient), and more positive events are needed to offset one negative event. Consequently, one feels more driven to achieve stable and continuous well-being out of fear that the potency of a negative event could adulterate our accumulated well-being.

3.5.3 *Increasing Duration of Positive Thoughts*

Bryant (2003) discussed how the significance of an event could be generated through mindful attention to the experience, consciously storing concrete details about the event

and recalling these memories as vividly as possible. However, well-being can be extended only when the temporal states are used to connect pleasure rather than supplanting emotions of another temporal state. Bryant (2003) evidenced that reminiscing to gain perspective and self-insight in the present is associated with greater positive outcomes; yet reminiscing to escape the present is associated with a lower perceived savoring ability.

However, Bryant (1989) demonstrated that people make different self-evaluations of their ability to avoid and cope with negative events and to obtain and sustain positive experiences. Thus some people might be good at minimizing destructive thoughts but not able to sustain positive thoughts because positive and negative emotions are only weakly correlated with each other (Bradburn 1965). Additionally, Diener and Emmons (1984) recognized that, as the time frame increased, pleasant and unpleasant affect became increasingly separate.

3.6 The Interplay Between Evaluations of Temporal Components

It is important to examine not only how one new thought can affect established evaluation but also investigate how thoughts of an entire temporal component (e.g., thoughts of the past) can affect another temporal component (e.g., evaluations of the prospect).

3.6.1 *The Influence of Thoughts of the Past to Thoughts of the Future*

We can see how the past perspective relates to the future perspective. In fact, research has shown that recalled affect could be a better predictor of future events than the on-line (in the moment) experiences (Wirtz et al. 2004; Oishi 2004). Additionally, low aspiration might result from a series of past failures (Diener et al. 1999). Boniwell et al. (2010) found an association between past negative and future orientations, which they suggested might result from negative past experiences or from the fact that future-oriented people have a more critical view of their past than hedonists.

3.6.2 *The Influence of Thoughts of the Past to Thoughts of the Present*

The past is also associated with present perspective. Drake et al. (2008) found that a past negative attitude had a positive correlation with negative affect and a negative correlation with 'subjective happiness' scores. Boniwell et al. (2010) detected that a negative past perspective correlated with a fatalistic view of the present, possibly resulting from a feeling of loss of control and willpower (Metcalfe and Mischel 1999) and also learned helplessness (Abrahamson et al. 1978). Past positive emotions correlate with present positive emotions as well. Bryant (2003) showed that the strongest correlation (.86) between temporal savoring was between savoring the moment and reminiscing.

3.6.3 *The Influence of Thoughts of the Present on Thoughts of the Future*

Finally, we also see how the future can impact the present; extreme obsession with the final outcomes of one's goals is negatively related to well-being (McIntosh and Martin 1992). The future can also affect global evaluations of SWB. Boniwell et al. (2010) found that the future orientation was correlated with lower levels of subjective well-being; however, if an individual's future orientation is associated with a positive past and present hedonistic orientation, they have a higher sense of well-being. Oishi et al. (1999) noted that people

gain a sense of satisfaction from activities that are congruent with their values. We find that the temporal states not only have an effect on other temporal states but also on global evaluation of SWB. For instance, Emmons (1986) found that certain aspects of one's aspirations influence positive and negative affect as well as predict SWB.

3.7 A Harmony of Temporal Components

Are thoughts of one temporal component more important than thoughts of another temporal component? Said another way, is the past more important than the future? Is the present more important than the past? When seeking well-being should we focus on one state over another? Boniwell and Zimbardo (2003) described how some scholars proposed that a time orientation with a focus on the present was prerequisite for well-being including Csikszentmihalyi (1990) and Maslow (1971). Yet, Zaleski et al. (2001) provided that a future-orientation and long-term goals positively correlated with almost all aspects of well-being, especially a meaningful life. Perhaps, the most important matter is not to find if one state is more important to focus on versus others, but rather considering how all three temporal states and their interplay lead to greater subjective well-being.

Bohart (1993) argues that a balanced time perspective allows people to move into the future, having reconciled themselves to their past experiences while staying grounded in the system of meanings derived from the past. Thus, as Bohart mentions, balanced time perspectives are import to reconcile temporal states. A balanced temporal perspective is important in order to sustain and amplify well-being.

3.7.1 *Balanced Temporal Preference*

Zimbardo (2002) stated one needs a balanced temporal perspective of the past, present, and future and the integration should be flexible to best fit our needs. Pavot et al. (1998) introduced the Temporal Satisfaction with Life Scale (TSWLS) in order to allow participants to focus on a specific time frame when evaluating their SWB. The authors found that the correlation between Past and Present, Present and Future, and Future and Past Life Satisfaction was .70, .58, and .60 respectively. Additionally, they realized that the addition of a future-oriented item on the TSWLS produced a significant increase in the prediction of peer-rated well-being over the current SWLS. When comparing the TSWLS and the ZTPI, Boniwell et al. (2010) found that the two past perspectives of the ZTPI related to satisfaction with the past, the present hedonistic perspective related with the present and future scales of the TSWLS, and that the satisfaction with the past and the satisfaction with the present on the TSWLS are strongly related.

We understand that all temporal states must be considered in order to achieve subjective well-being, but when we are making decisions and we are considering each temporal state, should we consider the temporal state in any particular order? The 3P Model would imply that we should use a particular sequence when evaluating temporal components together.

3.8 A Cyclical Model

3.8.1 *A Continuous Assessment Process*

When making decisions about one's well-being, temporal components should be considered in a particular order. As we can see from Fig. 1, one must, in this order, start by

considering the Prospect stage, then the Present stage, and then the Past stage when making decisions about one's well-being. The assessment process starts in the Prospect stage because humans have a priori or learned expectations of future events. Next, we experience the event and have a moment-to-moment assessment of whether the experience is feeling positive or negative, known as moment-utility (Kahneman 1999). Then, we can decide if we should continue the event or stop. After, the event we evaluate it to determine if we should repeat it. Finally, the next time we are likely to enter into that event, we have an expectation that is in some way based on our past evaluation. For example, let's say that you are going on a blind date. You start the blind date with a certain expectation. Based on the blind dates of your friends you feel that this will probably not go well. Once you start the date, you are assessing the moment-utility to determine if you should have a friend call your phone and give you a phony excuse to leave. You decide to follow through with the date but afterwards, because overall the date was not a pleasant memory, you decide that most likely you will not accept a blind date again. As we can see, in a sort of cyclical process an experience in one stage can affect the next stage.

3.8.2 Clockwise Direction

During the process of evaluation, the model stresses the importance of evaluating temporal states in a clockwise direction from prospect to present to past to prospect. This process works for (1) short-term components of SWB or (2) long-term (more meaningful) components of SWB. (1) Short-term components: for example, anticipatory savoring can affect present enjoyment of an event, mindful present enjoyment of an event can affect remembered utility, and remembered utility affects if you want to repeat the event or not. (2) Long-term components: we experience an engaging event, for instance, we then evaluate the event as engaging because it renders meaning, we decide to pursue meaningful events as a new purpose, and thus we enjoy events that are related to our sense of purpose.

If the process is reversed to a counterclockwise process, it can result in a decrease of satisfaction. For, instance, Bryant (2003) observed that a higher degree of anticipation before a vacation predicted a higher reporting of the vacation, whereas a higher reminiscing score predicted a lower level of satisfaction during the vacation and higher levels of frustration and disappointment with the vacation. The reason for this phenomenon could be the change of one's SWB baseline. Strack et al. (1985) found that recalling happy events can actually lower one's present subjective well-being by raising one's hedonic baseline if the reminiscing occurs in an emotionally uninvolved way.

3.8.3 Continuous vs. Uninterrupted Well-Being

This model does not suggest that we can arithmetically average up SWB evaluations because SWB is a process, where information passes through channels of biases. Thus, a simple summation of the SWB score in each temporal state would not equal the net SWB score starting at Prospect and ending at the Past state. Meaningful well-being is meaningful because it continues from state to temporal state. We then ask, is it possible or even desirable for well-being to be continuous? I would argue that continuous does not imply uninterrupted but rather, that the events that produce feelings of happiness are not ephemeral and can connect and transfer positive energy to the next temporal state.

A cyclical model intuitively depicts 'overall trend'. Kahneman (1999) described overall trend: a sequence of increasingly unpleasant experiences is judged much more unpleasant than the same experiences in the reverse order. Loewenstein and Schkade (1999) showed

that we prefer rising patterns of happiness during anticipation and remembering. If we thought of SWB as cyclical and connected to all temporal states, then we would prefer rising patterns because they appear more stable and able to transfer energy at the end of the state than declining patterns.

3.8.4 Developmental Stages

The 3P model can be used to reflect the relationship between human development and subjective well-being. In human development, as particular to middle-class American society, three major stages of life correlate with the 3E Model of Measurement. We begin with childhood (Fig. 3). In this stage, we focus on experience: learning, discovering, and enjoying the world. We do not initially think about the past nor the future, probably as a result of our neurobiological development. Marcus (2008) suggested that teenagers are motivated by short-term rewards because their nucleus accumbens (responsible for rewards) matures before the orbital frontal cortex (important for long-term planning). Thus, they can only think of the present pleasures rather than of future benefits.

Then, in adolescence and our college years, our attention is shifted to the future, to finding our purpose and anticipating what is in store for us. According to Pavot et al. (1998), students indicated a higher level of future life satisfaction than their present or past in comparison to non-students.

When we reach our 30s and 40s, we try to find meaning in our life and understand the importance of the experiences we choose. Kamvar et al. (2009) found that young people are more likely to associate happiness with excitement, whereas older people equate happiness with a sense of calmness, peace, and connectedness. Pavot et al. (1998) suggested that a temporal framework helps to evaluate SWB because an adolescent might have an average level of satisfaction but have a high level of satisfaction in the future, but an older person might have a high level of satisfaction with the past or present but a low level of satisfaction with the future because of health or economic factors.

Interestingly, this path in human development goes the opposite direction of the flow of the 3E Model. After experience in the 3E Model, we would move into evaluation, to understand our experience and use this information for expectations and towards discovering our purpose. Constructs of one's future are largely derived from past and present experiences (Cottle and Klineberg 1974; Fraisse 1963). Yet, in American development, after experience we are pressured by societal norms to create expectations of our lives and only then do we evaluate it. Erikson (1963) suggested that the period from adolescence to early adulthood is a time for self-identity. McAdams (1985) argued that identity becomes

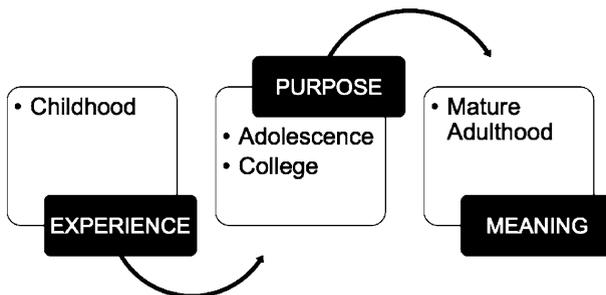


Fig. 3 The shift in temporal attention that occurs during human development

salient when a young person notices the discrepancies between their present and past self and the projected future self. A way to remedy this dissonance is to reflect on the past to gain insight and create a more congruent sense of self (Bryant et al. 2005).

Since we have discussed how the temporal states connect and interplay to form our evaluations of life satisfaction, we must discuss ways of increasing our subjective well-being by leveraging our knowledge of this interplay.

3.9 Increasing Subjective Well-Being

Happiness stems from our thoughts. New thoughts affect old thoughts. Thoughts of one temporal component connect to thoughts of another temporal component. Because our web of thoughts results in a unified reflection of our life, research must investigate how to leverage conscious control of thought to bolster our subjective well-being.

3.9.1 *Controlling the Transfer of Thought*

Kahneman and Riis (2005) stated that generally spending more time in the good states and less time in the bad/empty states increases well-being. We know that just the frequent experiences of positive events have shown to be correlated with high SWB (Pavot et al. 1991; Schimmack 2003). Additionally, our objective is to decrease the spread of negative emotions and promote the spread of positive emotions (Bryant 2003). For example, Zimbardo and Boyd (2008) suggested to neutralize negative past events or discover some positive element to remember in the future. One method for maximizing good thoughts is through associative memory.

3.9.2 *Associative Memory*

As mentioned, Kahneman and Riis (2005) stated that privileged events gain significance by their connection to other states. An event gains meaning (becomes privileged) as it connects to other events in its own temporal state and through other temporal states. Consolidation theory suggests that memories either strengthen to become immutable and permanent or gradually weaken to be soon forgotten (McGaugh 2000). Forming associations between items denotes an intrinsic strategy for the successful formation of long-term memories (Onoda et al. 2009). Additionally, Collins and Quillian (1969) showed how the meanings of words are embedded in networks of other meanings. Harley (1995) explained how information acquires meaning through its relationship with other information, a concept known as cognitive semantic networks. For instance, the word “mom” has much more significance than the word “chia pet” (well, that is, for most people). But why is this important?

It is important because events that can be cognitively associated with a sense of purpose or meaning lead to subjective well-being. For instance, Kim-Prieto et al. (2005) explained that goal-related factors and those preeminent in their lives (such as jobs or relationships) appear to have more impact on people’s reports of SWB. Thus, events in the present that relate to one’s sense of purpose (prospect) and meaning (past) influence SWB more than unrelated events. For example, Andrews and Withey (1976) revealed that an individual’s evaluations of generally distal factors, such as the government and other institutions, have little relation to measures of SWB. Thus, choosing meaningful, purposeful events increases our SWB. For, as we associate a pleasant event with another event, that memory becomes

stronger and indelible in our minds. Memories that have strengthened with time maybe assessed faster (Ellmore et al. 2008). Let us spend a few minutes discussing the importance of accessibility of information.

3.9.3 Accessibility of Information

Salient, and thus highly accessible information is strongly influential in evaluations of subjective well-being (Schwarz and Strack 1991). For instance, Schimmack et al. (2002) found that this extends to domain salience since for some individuals, information about romantic life is more chronically salient than for others, and hence is more likely to affect their evaluation of life satisfaction (the keyword being “chronically”). Diener et al. (2002) discovered that, when evaluating their life satisfaction, some individuals place a larger weight on those domains with the biggest problems, whereas others weight their best domains. Thus, focusing on the negative or the positive aspects of one’s life depends on each component’s salience.

Since we find that individuals often rely on heuristics or temperament to evaluate their life satisfaction, we can postulate that this is either because this information has become salient through habit or because the individual was genetically predisposed to this saliency. Craik and Lockhart (1972) suggested that perhaps accessibility of information develops over time. Happy people think about their pleasant events more frequently than unhappy people, thus making the happy memories more accessible. Thus, accessibility of information can be affected by default salience or salience stimulated through priming, situational context, or association. Not only does information become more salient through habit, but also, this association between life satisfaction and chronic salient information can grow stronger until SWB is influenced only by the chronic salient information irrespective of new information and experiences. Salience starts by connecting happiness from state to state in order to build it until it can affect SWB.

Now we understand why we should attempt to sustain a positive memory. But now the question arises how we can deliberately strengthen positive thoughts in order to increase their salience. One method is cognitive imagery.

3.9.4 Reliving the Past, Pre-Experiencing the Future

Bryant (2003) noticed that study participants who practiced reminiscing increased the percentage of time they felt happy in the past week. Additionally, research has shown that the more people reminisce about pleasant experiences, the more they are able to enjoy their lives (Havighurst and Glasser 1972; Bryant 2003). However, more pertinently, Bryant (2003) found that the group that used cognitive imagery to savor reported more vivid positive memories and a greater increase in reported frequency of happy emotions over the week than the group that used memorabilia. Why is this so? Damasio (2000) showed that neuroimaging illustrated how the memory of specific situations involves not just limbic activity but also the recreation of specific internal or visceral states associated with the original situation. This means, when we are remembering an experience, we are actually recreating the experience. Interestingly enough, imagining future circumstances and recalling past episodes involve the same cortical networks (Addis et al. 2007). We do not just recreate the event ideologically, but rather play, not live, this event out in our minds. Additionally, this means that when we think about future events, we do so in terms of actions and movements we expect to happen at some point. Thus, reminiscing and anticipating positive experiences allows us to recreate the same feelings during the time of

the actual event; moreover, mindful and vivid awareness of the experience enables a more vivid recall of the event (Bryant 2003).

Astonishingly, many factors of subjective well-being transpire, so to speak, “in our heads.” These elements stem from thought of the future and the past, rather than a focus on a current activity. Thinking of future events and considering past experiences transpire within, what scientists call, the brain’s default network (Buckner and Carroll 2007).

3.9.5 *Default Network*

The default network represents a network of regions of the brain that are active when an individual is not focused on a task or external event (Buckner et al. 2008). This is important because the default network could play a crucial role in understanding how individuals evaluate happiness. Buckner et al. (2008) state that passive conditions within the default network allow the individual to broadly monitor the external environment, which is known as an exploratory state (Shulman et al. 1997) or watchfulness (Gilbert et al. 2007). Additionally, self-reflective thoughts and judgments based on emotional content are active within the default network (Gusnard et al. 2001). Since our assessment of subjective well-being relies heavily on our memories, future plans, and self-reflection, the default network plays a crucial role in understanding judgments of subjective well-being. Additionally, the default network plays a role in curbing adaptation and subjective well-being decision making.

3.9.6 *Curbing Adaptation*

One way to increase subjective well-being is to curb adaptation of positive experiences. As I mentioned in the section regarding biases, adaptation is about attention or more specifically the loss of attention and the line between present experiences and past experiences. Thus, in order to curtail adaptation, interventions must focus attention on a positive event or towards positive reevaluation of an event. For instance, Koo et al. (2008) found that counterfactual reasoning can induce gratitude when the comparison between the counterfactual and the reality results in an upward comparison (e.g., when reality is seen as more favorable than the counterfactual alternative).

3.9.7 *Counteracting Time Discounting*

Additionally, the default network aids in decision-making. Boyer (2008) stated that speaking in terms of evolution, vivid memory and imaginative foresight might be crucial cognitive devices for decision-making. How is this important to subjective well-being? Well, we constantly base decisions of how our future self might feel on our present and past self. Boyer continued by explaining that memory and imagination may act as a brake on impulsiveness by partially offsetting time-discounting with counter-reward scenarios. Hence we can weigh feelings of the past or future against feelings in the present in order to make a decision for our SWB.

Note that imagining takes more time than remembering. Russell (2003) pointed out, while memory consists of a precoded set of events and values and thus comes quickly, imagination is slower and more deliberate because the event needs to be created from scratch. This implies that the past could influence SWB more than the future because information in the past is easier to access.

Now that we understand the methodology for controlling our thoughts and associating good thoughts to increase their accessibility, let us see how we can use these techniques to move up from the pleasant life to the great life.

3.10 Moving from Good to Great

Focusing on short-term forms of happiness gives us pleasure but it is not a durable form of well-being. Only when we move from the pleasurable life through the good life to the great life do we seek out long-term forms of SWB. SWB is long-term and durable when the thoughts it engenders can be associated with other thoughts in the present and with thoughts of the past and the present. Since this concept is a bit abstruse, let us elucidate the concept by examining the difference between a pleasurable life, a good life, and a great life to see how SWB becomes more sustainable.

3.10.1 *The Pleasurable Life*

The Pleasurable Life is also known as a life of Hedonism, the lowest level of happiness since the focus is on maximizing current happiness from orientation towards the past, present, or future (Fig. 4). Hedonic happiness in each of the temporal states in this model could be represented by desires in the Prospect, positive emotions and enjoyment in the Present, and reminiscing in the Past state. These forms of Happiness are all of short duration and therefore less rewarding because of their instability. Quantitatively, I propose that living in the Pleasurable Life is living at one's set-point level of SWB.

3.10.2 *The Good Life*

The Good Life can also be known as Well-Being. In this level of SWB, the individual learns to connect temporal states in order to transfer happiness; this may manifest itself as anticipating the Prospect. The individual is learning to gain happiness from an experience itself, but also from thoughts of the experience before it transpires. During the Good Life, the individual learns not only how to connect thoughts to the next temporal state but also how to focus on one temporal state when necessary. For example, in the Present state, the individual begins to experience flow in the Good Life. In flow, the individual can focus on the present by suppressing anxiety about future concerns and consequences of the event. Additionally, the individual learns how to control evaluation, so that evaluating an event does not get in the way of experiencing an event. Finally, gratitude in the Past stage allows an individual to gain more pleasure from an event through reflection after the event transpires. If the Pleasurable Life is living at one's set-point, the Good Life is living at the upper limit of one's set-point range.

3.10.3 *The Great Life*

Finally, the Great Life can also be called Eudaimonia. Eudaimonia is the state of living in accordance with one's 'daimon' that is one's 'true self' (Norton 1976). Because the daimon is one's personal state of excellence, it gives meaning and direction to one's life, and hence, eudaimonia is a condition of self-realization (Waterman 1993).

In the Great Life, the individual gravitates towards actions that maximize and stabilize subjective well-being by considering how happiness can extend to all temporal states. In

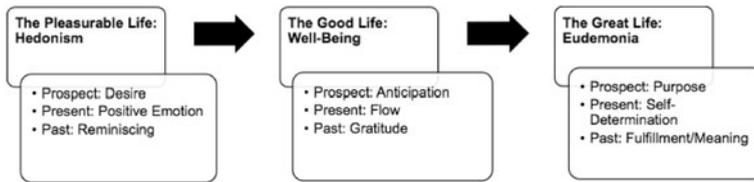


Fig. 4 The three forms of a happy life (the Pleasureable Life, the Good Life, and the Great Life) and a list of the individual temporal components respective to each category

the Great Life, the most valuable types of pleasure connect to meaning and reflect one's purpose. In the Present stage, the individual possesses intrinsic motivation and chooses actions according to her intended life goal. These experiences lead to feelings of self-realization by developing one's skills and talents, by fulfilling personal potentials, and by advancing one's purpose (Waterman 1993). These actions seem less pleasurable at first blush than Hedonistic choices, but actually produce more meaning and pleasure upon reflection. Additionally, within the Present, we find self-efficacy. Maddux (2002) described the theory of self-efficacy: our belief that we can produce a desired effect determines how we behave, persevere, and ultimately surmount obstacles. While self-efficacy is categorized in the Present stage (a current belief that "I can do it"), it is based on past events and is projected towards one's belief in his/her future self. Finally, in the Past stage, the user evaluates actions to find meaning and fulfillment in their lives and uses this evaluation to shape and refine their purpose in the Prospect stage.

I propose that Eudaimonia is quantitatively reached when SWB is chronically positively affected, overwhelming the stability of SWB and causing the levels to remain in the dominating positive experience. Cummins (2010) explained that during depression the homeostatic system has limited capacity to recover to normal function and when the capacity is chronically exceeded then the loss of positive affect will remain as the dominating experience. I suggest that Eudaimonia represents the converse phenomenon when SWB is pushed positively past one's set-point range.

3.11 Limitations and Future Research

As with all theories, this one has its limitations that need to be addressed. First, SWB can be conceptualized as both a cause and an effect of one's health, degree of daily hassles, view of the world, and ability to cope with life experiences (Feist et al. 1995). Additionally, domains such as marriage have been characterized by two-way causation meaning marriage has been shown to be a cause and consequence of SWB (Headey et al. 1991). Research needs to be conducted to determine the causal direction of the components of SWB in the 3P Model. Are the temporal components only causes of SWB or could SWB be effecting the evaluation of the temporal components? Secondly, the majority of the data substantiating this theory is self-report. Because empirical investigation on SWB based on behavioral and experimental methods is not readily available at this time, it is important to acknowledge the limitations of self-report assessment as well as recognize the possibility of differences between an individual evaluation of SWB and one's actual SWB. Lastly, in order to understand how this model can be applicable to the various domains and aspects of subjective well-being, much research and direct empirical testing is needed to validate and refine this theory. The 3P Model can be used as a guide to direct further SWB research. Often research is conducted devoid of integrative theory (Feist 1995; Staats 1991). Feist

et al. (1995) stated that in order for the field of subjective well-being to make systematic progress, theory and research must become more interdependent. I propose the following direction for future research.

First, in order to test this theoretical framework for SWB, we need to examine the relationship between people's temporal preferences. Boniwell et al. (2010) examined the relationship between the Temporal Satisfaction with Life Scale (TSWLS) and the Zimbardo Time Perspective Inventory (ZTPI). Future research should also examine the relationship between these two measures and Bryant's (2003) Savoring Beliefs Inventory (SBI). Klinger and Cox (1987) noted that about 12% of our daily thoughts are about the future; however, research still needs to investigate if the frequency or number of thoughts about the future fluctuates depending on one's temporal preference or savoring style.

King et al. (2004) stated that people have a sense of what it takes to make a fulfilling life, yet we continue to behave in ways that contradict these intuitions. I believe this is partly due to biases and meta-biases; but it is also difficult to consider all temporal states in decisions involving subjective well-being. I would proffer a need to create a survey that can measure if you consider all temporal states in decisions involving subjective well-being, if the decisions are congruous, and if they lead you in one, unified direction.

If individuals wanted to learn how to consider other temporal states when making decisions regarding subjective well-being, should they concentrate on the states in which they feel *best* or most *comfortable* or should they focus on a temporal state they need to shore up? For instance, if someone has a preference towards the Prospect stage, should that individual concentrate on finding happiness through Purpose rather than through desires or anticipation, or should that individual focus on the Present or Past states and work towards finding flow and meaning? An experimental study testing these two approaches would help to elucidate this matter.

Finally, I think a majority of future research should be focused on temporal preferences and psychological interventions. One question that should be addressed is if positive interventions should be customized based on our temporal preference, that means, whether a future-oriented person should focus on hope therapy, etc. Another focus should be to test specific positive interventions designed to improve a particular temporal state or preference (e.g., mindfulness for an individual with a preference of past negative, reminiscing for someone with the preference of past-positive, and self-efficacy for someone who is present-fatalistic). Lastly, we know that adaptation is about a decline in attention. While we know the tipping point of positive to negative events for a successful work team (Fredrickson and Losada 2005) or marriage (Gottman 1994), we do not know the tipping point of adaptation to an event. Thus, I propose that we investigate the amount of attention that is necessary to sustain positive emotions from a favorable event and stymie adaptation.

4 Conclusion

4.1 A General Model

A parsimonious, general model of subjective well-being should be inclusive and account for other SWB theories and research. Myers and Diener (1995) suggested that a viable theory of SWB must first recognize the importance of adaptation because some components of happiness are far more ephemeral than others. The 3P Model recognizes the importance of adaptation in the sustainability of subjective well-being. Myers and Diener continued by stating that factors like income (Diener et al. 1993), physical attractiveness

(Diener et al. 1995), and health (Okun and George 1984) have only marginal long-term effect on SWB though they strongly affect people's lives. While these variables are pleasurable, they do not increase pleasure across all temporal states and thus cannot be stable and continuous components of subjective well-being. Myers and Diener (1995) also recommended a cultural worldview as a component of SWB. This model is flexible enough to account for cultural differences because the components of SWB expressed in this model are temporal states, which are components that are ubiquitous and relevant to every individual. King et al. (2004) concluded that there are many paths to a well-lived life. Because well-being is subjective, many components of SWB will differ due to personality, culture, and values. However, I propose that an objective definition of SWB represents one that, as Myers and Diener stated, breaks the hedonic treadmill by producing sustainable subjective well-being.

4.2 Advantages of the 3P Model

The 3P Model of subjective well-being draws upon existing theories and current research to create a parsimonious, general model of SWB. The 3P Model uses time (Past, Present, and Prospect) as the basic component of SWB and posits that, in order to sustain and amplify well-being, a network of well-being must grow within and through temporal states. The 3P Model evidences the notion that subjective well-being is a temporal component, for we not only desire to pursue happiness (Prospect), but also to experience it (Present), as well as protect our previously acquired happiness (Past). This model is advantageous over other frameworks for a few reasons. Firstly, this model serves to unite top-down and bottom-up theories of SWB by showing how objective and subjective factors account for the evaluation of subjective well-being. Secondly, this model incorporates personal preferences towards components of SWB and temporal preferences to create individually meaningful well-being that remains relevant as the individual's preferences evolve and change. Thirdly, this model includes clear implications for the theoretical definition of adaptation and recommendations for curbing it in order to sustain and even amplify subjective well-being. Finally, the 3P model implies that a happy event in one's life is meaningful when it is meaningful not just to our current self but also has meaning for our past self and future self. Thus, since human lives can be evaluated temporally (who I was, who I am, who I will be), so should subjective well-being.

References

- Abrahamson, L. Y., Seligman, M. E. P., & Teasdale, J. D. (1978). Learned helplessness in humans: Critique and reformulation. *Journal of Abnormal Psychology, 87*, 49–74.
- Addis, D. R., Wong, A. T., & Schacter, D. L. (2007). Remembering the past and imagining the future: Common and distinct neural substrates during event construction and elaboration. *Neuropsychologia, 45*, 1363–1377.
- Andrews, F. M., & Withey, S. B. (1976). *Social indicators of well-being*. New York, NY: Plenum Press.
- Argyle, M. (1987). *The psychology of happiness*. London, England: Methuen.
- Austin, J. T., & Vancouver, J. B. (1996). Goal constructs in psychology: Structure, process, and content. *Psychological Bulletin, 120*, 338–375.
- Bandura, A. (2000). Self-efficacy: The foundation of agency. In W. J. Perrig & A. Grob (Eds.), *Control of human behavior, mental processes, and consciousness* (pp. 17–34). Mahwah, NJ: Erlbaum.
- Ben-Shahar, T. (2007). *Happier*. New York, NY: McGraw Hill.
- Bentham, J. (1948). *An introduction to the principles of morals and legislation*. New York, NY: Hafner. (Original work published in 1789).

- Berridge, K. C. (1999). Pleasure, pain, desire, and dread: Hidden core processes of emotion. In D. Kahneman, E. Diener, et al. (Eds.), *Well-being: The foundations of hedonic psychology* (pp. 525–557). New York, NY: Russell Sage Foundation.
- Bohart, A. C. (1993). Emphasizing the future in empathy responses. *Journal of Humanistic Psychology, 33*, 12–29.
- Boniwell, I., Osin, E., Linley, P. A., & Ivanchenko, G. (2010). A question of balance: Time perspective and well-being in British and Russian samples. *Journal of Positive Psychology, 5*(1), 24–40.
- Boniwell, I., & Zimbardo, P. G. (2003). Time to find the right balance. *The Psychologist, 16*, 129–131.
- Bower, G. H. (1981). Mood and memory. *American Psychologist, 36*, 129–148.
- Boyd, J. N., & Zimbardo, P. G. (1997). Constructing time after death: The transcendental-future time perspective. *Time and Society, 6*, 5–24.
- Boyer, P. (2008). Evolutionary economics of mental time travel? *Trends in Cognitive Sciences, 12*(6), 219–224.
- Boyle, P. A., Barnes, L. L., Buchman, A. S., & Bennett, D. A. (2009). Purpose in life is associated with mortality among community-dwelling older persons. *Psychosomatic Medicine, 71*, 574–579.
- Bradburn, N. M., & Caplovitz, D. (1965). *Reports of happiness*. Chicago, IL: Aldine.
- Brickman, P., & Campbell, D. T. (1971). Hedonic relativism and planning the good society. In M. H. Appley (Ed.), *Adaptation level theory: A symposium* (pp. 287–302). New York, NY: Academic Press.
- Brickman, P., Coates, D., & Janoff-Bulman, R. (1978). Lottery winners and accident victims: Is happiness relative? *Journal of Personality and Social Psychology, 37*, 917–927.
- 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.
- Brunstein, J. C. (1993). Personal goals and subjective well-being: A longitudinal study. *Journal of Personality and Social Psychology, 65*, 1061–1070.
- Bryant, F. B. (1989). A four-factor model of perceived control: Avoiding, coping, obtaining and savouring. *Journal of Personality, 57*, 773–797.
- Bryant, F. B. (2003). Savoring beliefs inventory (SBI): A scale for measuring beliefs about savoring. *Journal of Mental Health, 12*, 175–196.
- Bryant, F. B., Smart, C. M., & King, S. P. (2005). Using the past to enhance the present: Boosting happiness through positive reminiscence. *Journal of Happiness Studies, 6*, 227–260.
- Buckner, R. L., Andrews-Hanna, J. R., & Schacter, D. L. (2008). The brain's default network: Anatomy, function, and relevance to disease. *Annals of the New York Academy of Sciences, 1124*(1), 1–38.
- Buckner, R. L., & Carroll, D. C. (2007). Self-projection and the brain. *Trends in Cognitive Sciences, 11*, 49–57.
- Campbell, A., Converse, P. E., & Rodgers, W. (1976). *The quality of American life*. New York, NY: Russell Sage.
- Carver, C. S., Lawrence, J. W., & Scheier, M. F. (1996). A control-process perspective on the origins of affect. In L. L. Martin & A. Tesser (Eds.), *Striving and feeling: Interactions among goals, affect, and regulation* (pp. 11–52). Mahwah, NJ: Erlbaum.
- Cohn, B. (1999). *The lay theory of happiness: Illusions and biases in judging others*. Undergraduate dissertation, Princeton University.
- Collins, A. M., & Quillian, M. R. (1969). Retrieval time from semantic memory. *Journal of Verbal Learning and Verbal Behavior, 8*, 240–248.
- Costa, P., & McCrae, R. (1980). Influence of extraversion and neuroticism on subjective well-being. *Journal of Personality and Social Psychology, 38*, 668–678.
- Cottle, T. J., & Klineberg, S. L. (1974). *The present of things future: Explorations of time in human experience*. New York, NY: Free Press.
- Craik, F. I. M., & Lockhart, R. S. (1972). Levels of processing: A framework for memory research. *Journal of Verbal Learning and Verbal Behavior, 11*, 671–684.
- Crawford-Solberg, E., Diener, E., Wirtz, D., Lucas, R. E., & Oishi, S. (2002). Wanting, having, and satisfaction: Examining the role of desire discrepancies in satisfaction with income. *Journal of Personality and Social Psychology, 83*, 725–734.
- Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York, NY: Harper & Row.
- Csikszentmihalyi, M., & Hunter, J. (2003). Happiness in everyday life: The uses of Experience Sampling. *Journal of Happiness Studies, 4*, 185–189.
- Cummins, R. A. (2010). Subjective wellbeing, homeostatically protected mood and depression: A synthesis. *Journal of Happiness Studies, 11*, 1–17.
- Damasio, A. R. (2000). A neurobiology for consciousness. In T. Metzinger (Ed.), *Neuro correlates of consciousness: Empirical and conceptual questions* (pp. 111–120). Cambridge, MA: MIT Press.

- Davidson, R. J. (1992). Anterior cerebral asymmetry and the nature of emotion. *Brain and Cognition*, *20*, 125–151.
- Davidson, R. J. (1994). Asymmetric brain function, affective style, and psychopathology: The role of early experience and plasticity. *Development and Psychopathology*, *6*, 741–758.
- De Volder, M., & Lens, W. (1982). Academic achievement and future time perspective as a cognitive-motivational concept. *Journal of Personality and Social Psychology*, *42*, 566–571.
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, *95*, 542–575.
- Diener, E. (2006). Guidelines for national indicators of subjective well-being and ill-being. *Journal of Happiness Studies*, *7*, 397–404.
- Diener, E., & Emmons, R. A. (1984). The independence of positive and negative affect. *Journal of Personality and Social Psychology*, *47*, 1105–1117.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, *49*, 71–75.
- Diener, E., & Fujita, F. (1995). Resources, personal strivings, and subjective well-being: A nomothetic and idiographic approach. *Journal of Personality and Social Psychology*, *68*, 926–935.
- Diener, E., Sandvik, E., Seidlitz, L., & Diener, M. (1993). The relationship between income and subjective well-being: Relative or absolute. *Social Indicators Research*, *28*, 195–223.
- Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin*, *125*, 276–302.
- Diener, E., Wirtz, D., & Oishi, S. (2001). End effects of rated life quality: The James Dean Effect. *Psychological Science*, *12*, 124–128.
- Diener, E., Wolsic, B., & Fujita, F. (1995). Physical attractiveness and subjective well-being. *Journal of Personality and Social Psychology*, *69*, 120–129.
- Drake, L., Duncan, E., Sutherland, F., Abernethy, C., & Henry, C. (2008). Time perspective and correlates of well-being. *Time and Society*, *17*(1), 47–61.
- Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology*, *53*, 109–132.
- Ellmore, T. M., Stouffer, K., & Nadel, L. (2008). Divergence of explicit and implicit processing speed during associative memory retrieval. *Brain Research*, *1229*, 155–166.
- Elster, J., & Loewenstein, G. (1992). Utility from memory and anticipation. In G. Loewenstein & J. Elster (Eds.), *Choice over time* (pp. 213–234). New York, NY: Russell Sage.
- Emmons, R. A. (1986). Personal strivings: An approach to personality and subjective well-being. *Journal of Personality and Social Psychology*, *51*, 1058–1068.
- Erikson, E. (1963). *Childhood and society*. New York, NY: W. W. Norton Company.
- Fallot, R. D. (1980). The impact on mood on verbal reminiscing in later adulthood. *International Journal of Aging and Human Development*, *10*, 385–400.
- Feist, G. J. (1995). Psychology of science and history of psychology: Putting behavioral generalizations to the test. *Psychological Inquiry*, *6*(2), 119–123.
- Feist, G. J., Bodner, T. E., Jacobs, J. F., Miles, M., & Tan, V. (1995). Integrating top-down and bottom-up structural models of subjective well-being: A longitudinal investigation. *The Journal of Personality*, *68*(1), 138–150.
- Festinger, L., & Carlsmith, J. M. (1959). Cognitive consequences of forced compliance. *Journal of Abnormal Psychology*, *58*(2), 203–210.
- Fordyce, M. W. (1977). *The happiness measures: A sixty-second index of emotional well-being and mental health*. Manuscript submitted for publication.
- Fordyce, M. W. (1988). A review of research on the happiness measures: A sixty-second index of happiness and mental health. *Social Indicators Research*, *20*, 355–381.
- Fraisse, P. (1963). *The psychology of time*. New York, NY: Harper and Row.
- Fredrickson, B. L., & Kahneman, D. (1993). Duration neglect in retrospective evaluations of affective episodes. *Journal of Personality and Social Psychology*, *65*, 45–55.
- Fredrickson, B. L., & Losada, M. F. (2005). Positive affect and the complex dynamics of human flourishing. *American Psychologist*, *60*, 678–686.
- Fujita, F. (1991). *An investigation of the relation between extroversion, neuroticism, positive affect, and negative affect*. Unpublished masters thesis, University of Illinois at Urbana-Champaign.
- Gilbert, D. (2006). *Stumbling on happiness*. New York, NY: Vintage Books.
- Gilbert, S. J., Dumontheil, I., Simons, J. S., Frith, C. D., & Burgess, P. W. (2007). Comment on wandering minds: The default network and stimulus-independent thought. *Science*, *317*, 43.
- Gilbert, D. T., Pineda, 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.

- Gilbert, D. T., & Wilson, T. D. (2007). Prospection: Experiencing the future. *Science*, *317*, 1351–1354.
- Gottman, J. M. (1994). *What predicts divorce? The relationship between marital processes and marital outcomes*. Hillsdale, NJ: Erlbaum.
- Guignon, C. (Ed.). (1999). *The good life*. Indianapolis, IN: Hackett.
- Gusnard, D. A., Akbudak, E., Shulman, G. L., & Raichle, M. E. (2001). Medial prefrontal cortex and self-referential mental activity: Relation to a default mode of brain function. *Proceedings of the National Academy of Sciences of the United States of America*, *98*, 4259–4264.
- Harley, T. A. (1995). *The psychology of language: From data to theory*. East Sussex, UK: Psychology Press.
- Havighurst, R. J., & Glasser, A. (1972). An exploratory study of reminiscence. *Journals of Gerontology*, *27*, 245–253.
- Headey, B., Holmstrom, E., & Wearing, A. (1985). Models of well-being and ill-being. *Social Indicators Research*, *17*, 211–234.
- Headey, B., Veenhoven, R., & Wearing, A. (1991). Top-down versus bottom-up theories of subjective well-being. *Social Indicators Research*, *24*, 81–100.
- 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.
- James, W. (1890). *The principles of psychology* (Vol. 1). New York, NY: Dover Press.
- Kahneman, D. (1999). Objective happiness. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology* (pp. 3–25). New York: Russell Sage Foundation.
- Kahneman, D. (2000). Evaluation by moments: Past and future. In D. Kahneman & A. Tversky (Eds.), *Choices, values and frames* (Vol. 38). New York, NY: Cambridge University Press and Russell Sage Foundation.
- Kahneman, D., Fredrickson, B., Schreiber, C. A., & Redelmeier, D. A. (1993). When more pain is preferred to less: Adding a better end. *Psychological Science*, *4*(6), 401–405.
- Kahneman, D., & Krueger, A. B. (2006). Developments in the measurement of subjective well-being. *Journal of Economic Perspectives*, *20*(1), 3–24.
- 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.
- Kahneman, D., Krueger, A. B., Schkade, D. A., Schwarz, N., & Stone, A. A. (2006). Would you be happier if you were richer? A focusing illusion. *Science*, *312*(5782), 1908–1910.
- Kahneman, D., & Miller, D. T. (1986). Norm theory: Comparing reality to its alternatives. *Psychological Review*, *93*, 136–153.
- Kahneman, D., & Riis, J. (2005). Living, and thinking about it: Two perspectives on life. In F. A. Huppert, N. Baylis, & B. Keverne (Eds.), *The science of well-being* (pp. 285–304). Oxford, UK: Oxford University Press.
- Kahneman, D., Slovic, P., & Tversky, A. (Eds.). (1982). *Judgment under uncertainty: Heuristics and biases*. New York, NY: Cambridge University Press.
- Kamvar, S., Mogilner, C., & Aaker, J. L. (2009). *The meaning(s) of happiness*. Stanford University Graduate School of Business Research Paper No. 2026. Retrieved from SSRN: <http://ssrn.com/abstract=1418195>.
- Kassam, K., Gilbert, D. T., Boston, A., & Wilson, T. D. (2008). Future anhedonia and time discounting. *Journal of Experimental Social Psychology*, *44*(6), 1533–1537.
- Kasser, T., & Ryan, R. M. (1993). A dark side of the American dream: Correlates of financial success as a life aspiration. *Journal of Personality and Social Psychology*, *65*, 410–422.
- Kasser, T., & Ryan, R. M. (1996). Further examining the American dream: Differential correlates of intrinsic and extrinsic goals. *Personality and Social Psychology Bulletin*, *22*, 80–87.
- Keyes, C. L. M. (1998). Social well-being. *Social Psychology Quarterly*, *61*, 121–140.
- Keyes, C. L. M. (2002). The mental health continuum: From languishing to flourishing in life. *Journal of Health and Behavior Research*, *43*, 207–222.
- Kilpatrick, F. P., & Cantril, H. (1960). Self-anchoring scaling: A measure of individuals' unique reality worlds. *Journal of Individual Psychology*, *16*, 158–173.
- 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.
- King, L. A., Eells, J. E., & Burton, C. M. (2004). The good life, broadly defined. In A. Linley & S. Joseph (Eds.), *Positive psychology in practice* (pp. 35–52). Hoboken, New Jersey: John Wiley and Sons.
- Klinger, E., & Cox, W. M. (1987–1988). Dimensions of thought flow in everyday life. *Imagination, cognition, and personality*, *7*(2), 105–128.
- Koo, M., Algoe, S. B., Wilson, T. D., & Gilbert, D. T. (2008). It's a wonderful life: Mentally subtracting positive events improves people's affective states, contrary to their affective forecasts. *Journal of Personality and Social Psychology*, *95*(5), 1217–1224.

- Kozma, A., Stone, S., & Stones, M. J. (2000). Stability in components and predictors of subjective well-being (SWB): Implications for SWB structure. In E. Diener & D. R. Rahtz (Eds.), *Advances in quality of life theory and research* (pp. 13–30). Dordrecht, Netherlands: Kluwer Academic.
- Lazarus, R. S., Kanner, A. D., & Folkman, S. (1980). Emotions: A cognitive-phenomenological analysis. In R. Plutchik & H. Kellerman (Eds.), *Theories of emotion* (pp. 189–217). New York, NY: Academic Press.
- Lennings, C. J. (1996). Self-efficacy and temporal orientation as predictors of treatment outcome in severely dependent alcoholics. *Alcoholism Treatment Quarterly*, *14*, 71–79.
- Lewin, K. (1942). *Time perspective and moral*. New York, NY: Houghton Mifflin.
- 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, NY: Russell Sage Foundation.
- Lucas, R. E., Diener, E., & Suh, E. M. (1996). Discriminant validity of well-being measures. *Journal of Personality and Social Psychology*, *71*, 616–628.
- Lykken, D., & Tellegen, A. (1996). Happiness is a stochastic phenomenon. *Psychological Science*, *7*, 186–189.
- Lyubomirsky, S., Sheldon, K. M., & Schkade, D. (2005). Pursuing happiness: The architecture of sustainable change. *Review of General Psychology*, *9*, 111–131.
- Maddux, J. E. (2002). Self-efficacy: The power of believing you can. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 277–287). New York, NY: Oxford University Press.
- Magnus, K., & Diener, E. (1991). *A longitudinal analysis of personality, life events, and subjective well-being*. Paper presented at the 63rd annual meeting of the Midwestern Psychological Association, Chicago.
- Marcus, G. (2008). *Kluge*. Boston, MD: Houghton Mifflin Company.
- Markus, H., & Nuriis, P. (1986). Possible selves. *American Psychologist*, *41*, 954–969.
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, *50*(4), 370–396.
- Maslow, A. H. (1971). *Farther reaches of human nature*. New York, NY: Viking Penguin.
- McAdams, D. P. (1985). *Power, intimacy, and the life story: Personological inquiries into identity*. New York, NY: Guilford.
- McGaugh, J. L. (2000). Memory—a century of consolidation. *Science*, *287*, 248–251.
- McIntosh, W. D., & Martin, L. L. (1992). The cybernetics of happiness: The relation between goal attainment, rumination, and affect. In M. S. Clark (Ed.), *Review of personality and social psychology* (pp. 222–246). Newbury Park, CA: Sage.
- Medvec, V. H., Madey, S. F., & Gilovich, T. (1995). When less is more: Counterfactual thinking and satisfaction among Olympic medalists. *Journal of Personality and Social Psychology*, *69*, 603–610.
- Metcalfe, J., & Mischel, W. (1999). A hot/cool system analysis of delay of gratification: Dynamics of willpower. *Psychological Review*, *106*(1), 3–19.
- Michalos, A. C. (1985). Multiple discrepancies theory (MDT). *Social Indicators Research*, *16*, 347–413.
- Miller, R. B., Debacker, T. K., & Greene, B. A. (1999). Perceived instrumentality and academics: The links to task valuing. *Journal of Instructional Psychology*, *26*, 250–260.
- Moran, S., Tirri, K., Uliisses, A., & Bundick, M. (2009). *Finding purpose in three societies*. Paper presented at the international positive psychology conference, Philadelphia, PA.
- Myers, D. G., & Diener, E. (1995). Who is happy? *Psychological Science*, *6*, 10–19.
- Norton, D. L. (1976). *Personal destinies*. Princeton, NJ: Princeton University Press.
- Oishi S. (2004). On-line versus retrospective recall of emotions in the prediction of the longevity of dating relationships. University of Virginia. Unpublished manuscript.
- Oishi, S., Diener, E., Choi, D. W., Kim-Prieto, C., & Choi, I. (2007). The dynamics of daily events and well-being across cultures: When less is more. *Journal of Personality and Social Psychology*, *93*, 685–698.
- Okun, M. A., & George, L. K. (1984). Physician- and self-ratings of health, neuroticism and subjective well-being among men and women. *Personality and Individual Differences*, *5*, 533–539.
- Onoda, K., Okamoto, Y., & Yamawaki, S. (2009). Neural correlates of associative memory: The effects of negative emotion. *Neuroscience Research*, *64*(1), 50–55.
- Park, N., Peterson, C., & Seligman, M. E. (2004). Strengths of character and well-being. *Journal of Social and Clinical Psychology*, *23*(5), 603–619.
- Pavot, W., Diener, E., Colvin, C. R., & Sandvik, E. (1991). Further validation of the satisfaction with life scale: Evidence for the cross-method convergence of well-being measures. *Journal of Personality Assessment*, *57*, 149–161.
- Pavot, W., Diener, E., & Suh, E. (1998). The temporal satisfaction with life scale. *Journal of Personality Assessment*, *70*, 340–354.
- Peterson, C. (2006). *A primer in positive psychology*. New York, NY: Oxford University Press.

- Peterson, C., Park, N., & Seligman, M. E. P. (2005). Orientations to happiness and life satisfaction: The full life versus the empty life. *Journal of Happiness Studies*, 6, 25–41.
- Peterson, C., Ruch, W., Beermann, U., Park, N., & Seligman, M. E. P. (2007). Strengths of character, orientations to happiness, and life satisfaction. *The Journal of Positive Psychology*, 3, 149–156.
- Riis, J., Loewenstein, G., Baron, J., Jepson, C., Fagerlin, A., & Ubel, P. A. (2005). Ignorance of hedonic adaptation to hemo-dialysis: A study using ecological momentary assessment. *Journal of Experimental Psychology: General*, 134(1), 3–9.
- Roberts, B. W., & Robins, R. W. (2000). Broad dispositions, broad aspirations: The intersection of the big five dimensions and major life goals. *Personality and Social Psychology Bulletin*, 26, 1284–1296.
- Roese, N. J. (1997). Counterfactual thinking. *Psychological Bulletin*, 121, 133–149.
- Roese, N. J., & Olson, J. M. (1995). Outcome controllability and counterfactual thinking. *Personality and Social Psychology Bulletin*, 21, 620–628.
- Rozin, P. (2008). *MAPP On-Site2 Presentation* [PowerPoint slides]. Retrieved from e-College @ UPenn Web site: http://www.advance.program.upenn.edu/ec/dcs/DocView.learn?CourseID=3039161&47=5001241&dt=10%2F16%2F2008+7%3A40%3A53+PM&DocID=16983338&DocCollab_PK=17234580&Name=MAPPclass08short.ppt.
- Rozin, P. (2008). *New uncertain vs. familiar-positive experiences* [PowerPoint slides]. Retrieved from e-College @ UPenn Web site: <http://www.sas.upenn.edu/lps/graduate/mapp/login>.
- Rozin, P., & Royzman, E. (2001). Negativity bias, negativity dominance, and contagion. *Personality and social psychology review*, 5(4), 296–320.
- Russell, B. (1930). *The conquest of happiness*. New York, NY: Liveright.
- Russell, J. A. (2003). Core affect and the psychological construction of emotion. *Psychological Review*, 110(1), 145–172.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78.
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57, 1069–1081.
- Scheier, M. F., & Carver, C. S. (1985). Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology*, 4, 219–247.
- Schimmack, U. (2003). Affect measurement in experience sampling research. *Journal of Happiness Studies*, 4, 79–106.
- Schimmack, U., Oishi, S., & Diener, E. (2002). Cultural influences on the relation between pleasant emotions and unpleasant emotions: Asian dialectic philosophies or individualism-collectivism. *Cognition & Emotion*, 16(6), 705–719.
- Schreiber, C. A., & Kahneman, D. (2000). Determinants of the remembered utility of aversive sounds. *Journal of Experimental Psychology: General*, 129, 27–42.
- 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.
- Schwarz, N., & Strack, F. (1991). Evaluating one's life: A judgment model of subjective well-being. In F. Strack, M. Argyle, & N. Schwarz (Eds.), *Subjective well-being: An interdisciplinary perspective* (pp. 27–47). Oxford, UK: Pergamon Press.
- 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 domains. *European Journal of Social Psychology*, 17, 69–79.
- Scollon, C. N., Diener, E., Oishi, S., & Biswas-Diener, R. (2005). An experience sampling and cross-cultural investigation of the relation between pleasant and unpleasant affect. *Cognition and Emotion*, 19(1), 27–52.
- 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.
- Seligman, M. E. (2006). *Learned Optimism: How to change your mind and your life*. New York, NY: Vintage.
- Seligman, M. E., Steen, T. A., Park, N., & Peterson, C. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist*, 60, 410–421.
- Sheldon, K. M., & Kasser, T. (1998). Pursuing personal goals: Skills enable progress, but not all progress is beneficial. *Personality and Social Psychology Bulletin*, 24, 1319–1331.
- Shulman, G. L., Fiez, J. A., Corbetta, M., Buckner, R. L., & Miezin, F. M. (1997). Common blood flow changes across visual tasks: II. Decreases in cerebral cortex. *Journal of Cognitive Neuroscience*, 9, 648–663.

- Simons, J., Vansteenkiste, M., Lens, W., & Lacante, M. (2004). Placing motivation and future time perspective theory in a temporal perspective. *Educational Psychology Review*, *16*(2), 121–139.
- Snyder, C. R. (2000). *Handbook of hope: Theory, measures, and applications*. San Diego, CA: Academic Press.
- Spinoza. (1985). Ethics. In Spinoza, *The collected writings of Spinoza* (Vol. 1, pp. 408–620) Princeton, NJ: Princeton University Press. (Original work published in 1677).
- Staats, A. (1991). Unified positivism and unification psychology. *American Psychologist*, *46*, 899–912.
- Stallings, M. C., Dunham, C. C., Gatz, M., Baker, L. A., & Bengtson, V. L. (1997). Relationships among life events and psychological well-being: More evidence for a two-factor theory of well-being. *Journal of Applied Gerontology*, *16*, 104–119.
- Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The meaning in life questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counseling Psychology*, *53*, 80–93.
- Steger, M., Kashdan, T. B., Sullivan, B. A., & Lorentz, D. (2008). Understanding the search for meaning in life: Personality, cognitive style, and the dynamic between seeking and experiencing meaning. *Journal of Personality*, *76*(2), 199–228.
- Stones, M. J., & Kozma, A. (1991). A magical model of happiness. *Social Indicators Research*, *25*, 31–50.
- Strack, F., Schwarz, N., & Gschneidinger, E. (1985). Happiness and reminiscing: The role of time perspective, affect, and mode of thinking. *Journal of Personality and Social Psychology*, *49*, 1460–1469.
- Stroebe, W., Stroebe, M., Abakoumkin, G., & Schut, H. (1996). The role of loneliness and social support in adjustment to loss: A test of attachment versus stress theory. *Journal of Personality and Social Psychology*, *70*, 1241–1249.
- Suh, D., Diener, E., & Fujita, F. (1996). Events and subjective well-being: Only recent events matter: Erratum. *Journal of Personality and Social Psychology*, *71*, 842.
- Taylor, S. E. (1991). Asymmetrical effects of positive and negative events: The mobilization-minimization hypothesis. *Psychological Bulletin*, *110*, 67–85.
- Thomas, D. L., & Diener, E. (1990). Memory accuracy in the recall of emotions. *Journal of Personality and Social Psychology*, *59*, 291–297.
- Van Praag, B. M. S., Frijters, P., & Ferrer-i-Carbonell, A. (2003). The anatomy of subjective well-being. *Journal of Economic Behavior & Organization*, *51*, 29–49.
- Veenhoven, R. (1988). The utility of happiness. *Social Indicators Research*, *20*, 333–354.
- Veenhoven, R. (1999). *World database of happiness—continuous register of research on subjective appreciation of life*. Rotterdam: Erasmus University.
- Veenhoven, R. (2004). Happy life years: A measure of gross national happiness. In K. Ura & K. Galay (Eds.), *Gross national happiness and development* (pp. 287–318). Thimphu, Bhutan: The Centre for Bhutan Studies.
- Waterman, A. S. (1993). Two conceptions of happiness: Contrasts of personal expressiveness (eudaimonia) and hedonic enjoyment. *Journal of Personality and Social Psychology*, *64*(4), 678–691.
- Watson, J. (1895). *Hedonic theories from Aristippus to Spencer*. New York, NY: Macmillan.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, *54*, 1063–1070.
- Wilson, W. (1967). Correlates of avowed happiness. *Psychological Bulletin*, *67*, 294–306.
- Wilson, T. D., Centerbar, D. B., Kermer, D. A., & Gilbert, D. T. (2005). The pleasures of uncertainty: Prolonging positive moods in ways people do not anticipate. *Journal of Personality and Social Psychology*, *88*, 5–21.
- Wilson, T. D., Meyers, J., & Gilbert, D. T. (2003). “How happy was I, anyway?” A retrospective impact bias. *Social Cognition*, *21*, 421–446.
- Wirtz, D., Kruger, J., Scollon, C. N., & Diener, E. (2004). What to do on spring break? Predicting future choice from online versus recalled affect. *Psychological Science*, *14*, 520–524.
- Wyvell, C. L., & Berridge, K. C. (2000). Intra-accumbens amphetamine increases the conditioned incentive salience of sucrose reward: Enhancement of reward “wanting” without enhanced “liking” or response reinforcement. *The Journal of Neuroscience*, *20*(21), 8122–8130.
- Zaleski, Z., Cycon, A., & Kurc, A. (2001). Future time perspective and subjective well-being in adolescent samples. In P. Schmuck & K. M. Sheldon (Eds.), *Life goals and well-being: Towards a positive psychology of human striving* (pp. 58–67). Goettingen, Germany: Hogrefe & Huber Publishers.
- Zimbardo, P. G. (2002). Just think about it: Time to take our time. *Psychology Today*, *35*, 62.
- Zimbardo, P. G., & Boyd, J. N. (1999). Putting time in perspective: A valid, reliable individual-differences metric. *Journal of Personality and Social Psychology*, *77*(6), 1271–1288.
- Zimbardo, P. G., & Boyd, J. N. (2008). *The time paradox*. New York, NY: Free Press.
- Zimbardo, P. G., Keough, K. A., & Boyd, J. N. (1997). Present time perspective as a predictor of risky driving. *Personality and Individual Differences*, *23*, 1007–1023.