The Psychology and Science of Happiness: What Does the Research Say?

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Abstract

This paper surveys the scientific evidence regarding the nature of human happiness by drawing upon numerous studies in social science domains: namely psychology, but also related fields of business leadership and consulting, economics, and behavioral economics. Beginning with a definition and narrowing of the terminology, the review moves toward a brief sketch of measurement methods in the topic. Subjective well-being and happiness are then explored within the framework of psychological theories of happiness, including tension-reduction and goal attainment theories, activity and process theories, and genetic and biologic dispositional theory. Evolving views regarding hedonic adaptation as a key process underlying happiness is examined, as well as Lyubomirsky and Layous' (2013) comprehensive model of happiness as a framework that encompasses the entire scope of psychological theories regarding happiness. Finally, the correlational evidence related to the various components of happiness is reviewed, concluding with the observation that although strong correlational evidence is linked to well-being, happiness is a concept that defies unequivocal causal attributions because it contains a complex amalgam of interrelated and bi-reciprocal variables.

Defining Happiness

Any serious discussion about happiness must first begin by attempting to define what we mean by the term *happiness*. In general, happiness can be thought of as an emotional state that reflects a high level of mental and/or emotional well-being. Current scientific perspectives typically frame happiness as a complex binary construct that encompasses subjective elements of *both* affect and cognition that contribute to well-being. Subjective well-being (SWB), according to Lyubomirsky and Dickerhoof (2006)   " represents people's beliefs and feelings about whether they are leading a rewarding and desirable life (p. 167)." Diener, Oishi, and Lucas (2009), define SWB as " a person's cognitive and affective evaluations of his or her life as a whole (p.187)," including evaluations of emotional reactions to life events, and also cognitive judgments

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about satisfaction and fulfillment, and especially in important life domains, such as marriage and work (Diener, 2012).

The roots of this dichotomous view of happiness can be traced to discourse that philosophers and religious scholars have engaged in throughout the ages as they have long pondered the nature, causes, and methods of fostering human happiness. The idea of happiness as personal fulfillment; eudaimonia, and the idea of happiness as pleasure; hedonia are rooted in the classical Greek philosophy of Aristotle's *Nichomachean Ethics* (Waterman, 2013). Aristotle eschewed the idea that the seeking of pleasure (hedonism) is a worthwhile pursuit and ascribed true happiness to eudaimonia a path toward what he called *the good life,* which is characterized by a focus on virtuous activities that reflect the best within us. Eudaimonia is translated from the Greek to mean "flourishing", and can be defined as the subjective feeling of personal fulfillment that arises when our actions have reflected our highest potentials.

The positive psychology movement, which has its own historical roots in the human potential movement of Rogers and Maslow, has unabashedly adopted the Aristotelian concepts of hedonia and eudaimonia in an attempt to frame the exploration of happiness within the field of psychology. Indeed, positive psychology defines itself as the scientific study of human flourishing (Seligman & Csikszentmihalyi, 2000), and Martin Seligman's (the oft-noted founder of the positive psychology movement) theoretical model of happiness is based on *the good life* which contains three elements: the Pleasant Life, the Meaningful Life, and the Engaged Life (Seligman, Rashid & Parks, 2006).

The Aristotelian notion that virtuous actions are necessary for true human happiness has been echoed in religious teachings from the Buddhist notion of Nirvana to the Catholic theologian Thomas Aquinas's description of felicity as a blessed happiness which requires virtuous acts in accordance with natural and divine law. In contemporary models of happiness espoused by positive psychologists, virtues are also known as character strengths, and considered to be a royal road toward increasing personal well-being and happiness.   The VIA (Values-In-Action) classification system (Peterson & Park, 2009) and the Clifton StrengthFinder (Clifton Strengths School, n.d.)

are both examples of psychometric assessments that are based on the assumption that determining one's personal virtues (strengths) are an essential first step en route to increasing engagement and concomitant happiness.

The scientific study of happiness and its psychological correlates is a burgeoning research enterprise; a recent search (March 2013) of the PsychInfo database returned over 2700 peer-reviewed articles using *happiness* as a key subject term. Much of the research conducted on happiness comes under the heading of *subjective well-being* (Diener, 2000, 2012).   Other happiness researchers use both terms subjective well-being and well-being interchangeably with the term happiness (Lyubomirsky & Dickerhoof, 2006; Lyubomirsky, 2008).

Indeed, the term well-being is often used as a proxy for happiness, especially in the popular press. To the layperson, positive psychology is virtually synonymous to the *science of happiness*, a term that is largely the result of the mainstream media's current fascination with research on happiness within the domain of positive psychology (Schoenberg, 2011). Research findings from scientific studies about happiness are rapidly filtering down for public consumption through a variety of mass media sources including documentary films (Happy, n.d.), popular magazine articles, books; and entire websites devoted to the science of happiness (Scientific American, n.d.), and can serve as a useful starting point for locating scientific research on happiness and well-being.

However, not all research in the scientific study of happiness is conducted within the domain of psychological research. Some notable exceptions are studies of well-being in the business and economic domains, with behavioral economics representing overlap between psychology and the business and economic domains.   Much of the current scientific research on well-being, especially on the global demographics and correlates of well-being derives from business research. Rath and Harter's (2010) model of well-being originates from factor analysis of research conducted by the Gallup, Inc., a business consulting organization. In this model, the data suggests that happiness can be conceptualized as high levels of well-being across five domains: career, social, financial, physical, and community. An interesting sidebar related to this research is that the aforementioned Clifton StrengthFinder (which purports to measure

personal strengths as a means to happiness) was developed as a result of the life's work of Donald O. Clifton. Clifton's seminal business organization Selection Research, Inc. eventually acquired Gallup, with Clifton leading the team of researchers from 1988-1999 (Clifton Strengths School, n.d.). Currently, Gallup Inc. is at the forefront of demographical national and global research that aims to delineate the dynamic nature of well-being with its U.S. National Well-Being Index and Gallup World Poll (Gallup, n.d.). Drawing on these data gathered by the Gallup World Poll (and other global data), specific information about systematic differences between the global well-being of nations and their putative causes has been summarized in the comprehensive World Happiness Report by Columbia University's *Earth Institute.* According to the report, the happiest countries in the world are in Northern Europe (Denmark, Finland, Norway), while the least happy are in sub-Saharan African nations (Central African Republic, Benin, Togo). The United States was ranked 11th happiest. The report's authors conclude that aside from income levels, crucial factors correlating to higher well-being include low political corruption, strong social networks, and political freedom. On the individual level, the correlates of high well-being are mental and physical health, social support, stable family structure, and a secure job (The World Happiness Report, n.d.).

Measuring Happiness

Research conducted by the Gallup organization is representative of how happiness is often measured. Individuals are surveyed about their levels of well-being and the information is compiled to develop national indices. The World Happiness Report states that "among various measures of subjective well-being, the primary distinction to be made is between cognitive life evaluations (represented by questions asking how happy or satisfied people are with their lives as a whole), and emotional reports" (The World Happiness Report, p. 11, n.d.). Emotional reports are further distinguished from those that assess current emotional status (how happy are you now) and those that are retrospective (how happy were you yesterday). These questions can be seen as an attempt to get at the dichotomous nature of happiness as discussed earlier.

Psychometric measures of personal happiness and well-being most popular with psychological researchers also reflect this duality. Early measures such as the PANAS (Positive and Negative Affect Scale) attempted to gauge happiness as relative levels of positive and negative emotion (Kercher, 1992). Currently popular psychological measures of happiness tend to be more evaluative in nature, and include the Satisfaction with Life Scale (Diener, Emmons, Larsen & Griffen, 1985) and the Subjective Happiness Scale (Lyubomirsky & Lepper, 1997). In recent past, some researchers have attempted to tease apart the differences underlying the various concepts related to well-being, e.g., life satisfaction, positive and negative affect, self-esteem, and optimism. Using Campbell and Fiske's (1959) multitrait-multimethod matrix analyses, Lucas, Diener and Suh (1996) found high discriminant validity for life satisfaction from positive and negative affect and also from optimism and self-esteem.

Self-report questionnaire assessments have long been the mainstay of research in subjective well-being and happiness, as in many areas of psychological research. For some time now, researchers have been developing hybrid methods to measure happiness in the hope that such measures might increase validity. Although technically still a measure of self-report, Csikszentmihalyi (1997) introduced the Experience Sampling Method (ESM) in the 1970s. The ESM was novel in that it used electronic prompts to signal participants to record their immediate levels of happiness (or other variables such as motivation) rather than relying on retrospective reports. Csikszentmihalyi's ESM utilizes random prompting to generate large quantities of data, that when compiled is assumed to be highly reliable. A recent attempt to improve upon self-report data in the measurement of happiness is described by Zhou (2011) as an approach that combines a happiness evaluation method developed by Ng with the day reconstruction method by Kahneman and associates. According to Zhou, the combined method moves happiness assessment toward more accuracy and standardization.

Theories and Models of Happiness

Psychological theories of happiness fall under three broad categories: need and goal satisfaction theories, process and activity theories, and genetic and personality predisposition theories. In need and goal satisfaction theories, the reduction of

tensions, removal of pain, and the satisfaction of biological or psychological needs are directly related to an organism's happiness. Freud's (1950) pleasure principle is an obvious example of this notion. Maslow's (1969) hierarchy of needs can be seen as an extension of this conceptualization by including the need for psychological growth and actualization as the ultimate expression of human potential and happiness. Carl Rogers (1961) famously argued against the good life as any type of *fixed state* including happiness, or a state of drive reduction, tension reduction, or homeostasis. In Rogers' view, the good life is a *process* and not a state of being.

Whereas need satisfaction theoreticians believe that satisfaction of basic and higher-order needs will lead to happiness, activity and process theorists posit that engaging in activities under optimal conditions leads to a state of happiness or fulfillment. Csikszentmihalyi's (1997) concept of *flow* encapsulates this notion and has been embraced by positive psychology researchers, including Seligman and Lyubomirsky. According to Csikszentmihalyi, frequency of flow experiences in life correlates more highly to measures of SWB than do frequency of feelings of happiness (positive affect). Seligman's aforementioned model of the good life (Seligman et al., 2006) uses flow as a central concept in his description of the Engaged Life. For Lyubomirsky (2007), whose research has emphasized means toward fostering sustainable happiness, increasing the frequency of activities that are truly engaging, i.e. "flow experiences" (p.75) is but one form of intentional activities that Lyubomirsky advocates in the service of boosting one's baseline level of happiness. The earliest proponent of intentional happiness training was Fordyce (1977, 1983, as cited Boehm & Lyubomirsky, 2009) whose 'training' in '14 fundamentals' of happiness gives preliminary evidence to the notion that short-term happiness levels can be boosted. Lyubomirsky considers her research on the identification and development of volitional strategies that contribute to long-term sustainable happiness to be an extension of Fordyce's pioneering work.

Lyubomirsky's focus on intentional strategies to foster sustainable happiness has not ignored research evidence that strongly suggests that happiness is in a large part determined by genetics. Lyubomirsky has proposed a model which purports that

sustainable happiness derives from three components in varying proportions. According to this model, roughly 10% of sustainable happiness is determined by life circumstances, 40% by intentional activity, and 50% is determined by a set point of biological and genetic forces. The idea that there is an element of stability in people's levels of happiness (aside from influences due to life circumstances or the achievement of goals) due to personality dispositions is the fundamental premise of genetic and personality theory.

The notion that there is a substantial genetic component to subjective well-being is strongly supported by scientific research findings (Headey & Wearing, 1989), especially in the study of twins. Tellegren et al. (1988, as cited in Diener, et al., 2009) found that in studies comparing both monozygotic and dizygotic twins raised together and apart, approximately 50% of the emotional reactivity of life circumstances can be explained by genes. Other studies (Diener et al, 2009) have correlated specific facets of personality traits to SWB; cheerfulness (a facet of extraversion) is strongly correlated with high levels of SWB, while depression (a facet of neuroticism) is strongly correlated to low levels of SWB. Dispositional cognitive styles such as optimism and hope are also linked to higher levels of happiness (Snyder et al., 1991, as cited in Diener et al., 2009; Scheier & Carver, 1993, as cited in Diener et al., 2009).

Lyubomirsky's tripartite model of sustainable happiness is congruent with the fact that psychological research often fails to confirm any single variable as causal, and that complex human experiences often result from the interaction of several dynamic variables. Diener's decades-long research on SWB provides strong empirical evidence for this view, and notes that for the vast majority of people, the set point of happiness is slightly positive and is strongly influenced by temperament and externals such as cultural norms.

Diener also notes that underlying an individual's set point of happiness is the process of adaption; that people react strongly in the short term to good and bad events, but tend to habituate (adapt) over time and return to their original level (set point) of happiness (Diener, 2000). Adaptation theory has strongly influenced modern psychological theory about happiness since Bradburn and Campbell (1971, as cited in

Diener, Lucas & Scollon, 2006) described the process and coined the term *the hedonic treadmill*; a theory that was scaffolded atop Helson's automatic habituation model (1948, 1964, as cited in Diener et al., 2006). Automatic habituation is seen to be an adaptive process by which psychological systems react to deviations from one's current adaptation level and allow constant influx of stimuli to diminish in impact. The notion of a hedonic treadmill has gained widespread appeal among many researchers, especially psychologists and behavioral economists, especially since early research with lottery winners and spinal cord victims seemed to confirm the view that humans can adapt to many events in life, and that these events do not exert a substantial long term effect on happiness levels (Brickman, Coates, & Janoff-Bulman, 1978). Brickman and colleagues posited that the theory of adaptation to happiness would explain why both a major favorable event such as winning a lottery and a major adverse event such as becoming permanently paralyzed ostensibly has little effect on SWB. The gist of the hedonic treadmill model is that the pleasures of success and the pain of failure all eventually fade away as we adapt back up or down to our stable set-point of happiness. A notable corollary to this idea is that people are poor at predicting their emotional state in the future (affective forecasting) and tend to overestimate how positive events like winning the lottery might affect their happiness, while at the same time ignoring other factors that will impact happiness levels (Kahneman, 2011).

It should be noted that Headey and Wearing (1989) originally contended that the idea of the hedonic treadmill was subject to over-interpretation. Recent psychological research has confirmed this to be true, and is rapidly revising the traditional view of the hedonic treadmill, which is now known as *hedonic adaptation* (HA). Diener et al. (2006) note five important revisions to the established theory of HA, all of which are based on individual temperaments and differing underlying components of well-being, and Sheldon and Lyubomirsky (2012) suggests that "well-being decreases substantially after such adverse life events as unemployment, disability, divorce, and widowhood, and does not completely recover… and that strong negative events can throw people permanently 'off kilter,' exerting a durable negative influence on them such that they remain at a lower baseline than before" (p. 670).

In addition, Sheldon and Lyubomirsky (2012) have tested moderating variables in a model they have labeled the Hedonic Adaptation Prevention (HAP) model. In their view, both appreciation and variety in change-related experiences can delay the process of HA and a return to lower levels of SWB. Another interesting finding comes from Nelson and Meyvis (2008), who found in six studies that *interruptions* can undermine and disrupt the process of HA. Their findings strongly suggest that interruptions disturb HA and lead to intensification of both positive and negative experience: pleasant experiences are made more pleasurable and unpleasant experiences are made more irritating through breaks in the experience.

The implication of these data is that despite the general underlying effect of HA, happiness can be both substantially decreased because of significant negative life events, and increased, through the practice of intentional positive activity. The viability of increasing well-being is summarized in a recent journal article by Lyubomirsky and Layous (2013). According to their positive-activity model it is the specific features of activities, persons, and person-activity fit that act to moderate the effect of positive activities on well-being. In addition, their model proposes that the mediating variables accounting for changes in well-being over time are positive emotions, positive thoughts, positive behaviors, and need satisfaction; a comprehensive inventory that neatly encompasses the three broad categories of need/goal satisfaction theories, process/activity theories, and genetic/personality predisposition theories.

Conclusions about Happiness

Current research strongly suggests that the level of happiness an individual experiences depend upon a convergence of both cognitive and affective evaluations of one's life, and is determined by a variety of factors which can be roughly grouped into three general categories: genetic and biological set point, life circumstances, and intentional activity. Although personality traits such as levels of neuroticism and extraversion are assumed to be relatively stable (Costa & McCrae, 1980), it still remains unclear to what degree traits presumed to be stable are purely biologically determined and are not subject to change. Consider optimism as a prime example of this lack of clarity. While optimism appears closely related to the depression facet of the

personality trait of neuroticism (negatively correlated), it is also considered a cognitive explanatory style that can be learned (Seligman, 1990). Which raises the question that if depression (as learned helplessness) is a form of environmental influence and not a fixed genetic trait, does that hold true also for other facets of neuroticism such as anxiety and impulsivity? The answer to this question is related to the view that psychological traits have strong genetic components, but are not necessarily entirely stable over the lifespan.

With respect to life circumstances, the literature now suggests that although external circumstances exert some influence on happiness, it is proportionally much less influential than the genetic set point or activities an individual pursue. Lyubomirsky (2008) has pegged it at about only 10% has a determinant of happiness. Research conducted and reviewed by Diener and associates (as cited in Boehm and Lyubomirsky, 2009) suggests that demographic factors related to life circumstances such as marriage, age, sex, culture, life events and income explain relatively little of the variance in happiness levels of individuals.

Income has long been studied as a demographic correlate of subjective well-being. Although income has been correlated to subjective well-being both on a within-nation and between-nation basis, the consensus about to what degree income is correlated to well-being is rapidly eroding. Early economic research by Easterlin (1974) gave rise to an assumption popularly labeled the *Easterlin Paradox*, which stated that beyond a level of basic needs being met, a nation's overall average well-being is not correlated to income levels. However, Sacks, Stevenson and Wolfer's (2012) analysis of data from the Gallup World Poll reassesses the Easterlin Paradox, finding clear and convincing evidence that there is no satiation point for a nation's wealth, and there is an unequivocal link between GDP per capita and SWB across countries. Regarding *individual* income levels, Diener et al., (2009) state that beyond a certain level, changes in personal income do not appear to influence an individual's SWB significantly. In earlier research, Diener Horowitz and Edmonds (1985) found that multi-millionaire Americans are only negligibly happier than average Americans.

However, what an individual *does* with one's income falls under the category of intentional activity, an area highlighted in previous discussion that holds significant potential for increasing personal happiness (Lyubomirsky & Layous, 2013). Several recent studies confirm the view that money *can* buy happiness; so long as it is well-spent. West, Reed and Gildengorin (1998) found that when controlling for known correlates of depressive status, higher income was associated with lower depressive symptomology in older adults. More recently, Caprariello and Reis (2013) note that spending money on experiences, rather than on material possessions, makes people happier if the experiences are shared with others. This adds to the growing body of evidence that indicates that spending money on others, rather than oneself leads to higher levels of happiness (Aknin et al, 2013).

Happiness is indeed a fuzzy concept— fraught with nuance, jangle about terminology, overlapping constructs and notions about what happiness entails. Yet if we can agree on anything—it is that no matter how ill-defined happiness is, as humans we desire more of it. We value and seek lives that are pleasant, engaged and meaningful. As humans, we prize the many correlates of happiness: more marital satisfaction, greater quality of our social lives, better job performance and higher incomes, greater physical health, longevity, and success (Diener, 2012; Rath & Harter, 2010). We recognize the many benefits and rewards that happiness bestows upon us, and as students of psychology, we also recognize our responsibility and intentionality toward happiness. We must also accept the complex interrelationship between correlational variables related to happiness. Many variables related to happiness appear to be bi-directional and bi-reciprocal in nature, and defy any clear attributions to causality. Lyubomirsky, King, and Diener (2005) state this position succinctly in their title page as they examine the juxtaposition of correlational evidence in the relationship between success and happiness and ponder: Does Happiness Lead to Success? This may well be the seminal question in our scientific inquiry regarding well-being: does happiness lead to success, or does success lead to happiness? The answer appears to be— yes!

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