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Beyond the hedonic treadmill: Revising the adaptation theory of well-being

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Abstract:
According to the hedonic treadmill model, good and bad events temporarily affect happiness, but people quickly adapt back to hedonic neutrality. The theory, which has gained widespread acceptance in recent years, implies that individual and societal efforts to increase happiness are doomed to failure. The recent empirical work outlined here indicates that 5 important revisions to the treadmill model are needed. First, individuals' set points are not hedonically neutral. Second, people have different set points, which are partly dependent on their temperaments. Third, a single person may have multiple happiness set points: Different components of well-being such as pleasant emotions, unpleasant emotions, and life satisfaction can move in different directions. Fourth, and perhaps most important, well-being set points can change under some conditions. Finally, individuals differ in their adaptation to events, with some individuals changing their set point and others not changing in reaction to some external event. These revisions offer hope for psychologists and policymakers who aim to decrease human misery and increase happiness.

Keywords: adaptation, coping, happiness, life satisfaction, subjective well-being

Imagine a world in which the poorest diseased beggar with no family or friends is as happy as the healthy billionaire who has a surfeit of close and supportive relationships. Or imagine that individuals living in a cruel dictatorship where crime, slavery, and inequality are rampant are as satisfied with their lives as people living in a stable democracy where crime is minimal. Finally, imagine that no matter how much effort and care someone put into being happy, the long-term effects were no different than if he or she lived a profligate and dissolute life. Implausible? These surprising visions are based on a widely accepted model of subjective well-being. Brickman and Campbell (1971) described a *hedonic treadmill*, in which processes similar to sensory adaptation occur when people experience emotional reactions to life events. Just as people's noses quickly adapt to many scents and smells thereafter disappear from awareness, Brickman and Campbell suggested that one's emotion system adjusts to one's current life circumstances and that all reactions are relative to one's prior experience. Myers described adaptation as a key to understanding happiness. In his popular book *The Pursuit of Happiness*, David Myers (1992) wrote, "The point cannot be overstated: *Every* desirable experience—passionate love, a spiritual high, the pleasure of a new possession, the exhilaration of success—is transitory" (p. 53).

In the original treadmill theory, Brickman and Campbell (1971) proposed that people briefly react to good and bad events, but in a short time they return to neutrality. Thus, happiness and unhappiness are merely short-lived reactions to changes in people's circumstances. People continue to pursue happiness because they incorrectly believe that greater happiness lies just around the corner in the next goal accomplished, the next social relationship obtained, or the next problem solved. Because new goals continually capture

one's attention, one constantly strives to be happy without realizing that in the long run such efforts are futile.

The hedonic treadmill theory is built on an automatic habituation model in which psychological systems react to deviations from one's current adaptation level (Helson, 1948, 1964). Automatic habituation processes are adaptive because they allow constant stimuli to fade into the background. Thus, resources remain available to deal with novel stimuli, which are most likely to require immediate attention (Fredrick & Loewenstein, 1999). The happiness system is thus hypothesized to reflect changes in circumstances rather than the overall desirability of the circumstances themselves. This idea was formalized by Carver and Scheier (1990), who maintained that emotions depend on the rate of change of important circumstances.

In 1978, Brickman, Coates, and, 1978 Janoff-Bulman offered initial empirical support for the treadmill model. In studies that have become classics in the field, Brickman et al. concluded that lottery winners were not happier than nonwinners and that people with paraplegia were not substantially less happy than those who can walk. Although the empirical support for hedonic adaptation was, in fact, mixed, the studies captured the attention of psychologists. The idea of hedonic adaptation was appealing because it offered an explanation for the observation that people appear to be relatively stable in happiness despite changes in fortune. In addition, the treadmill theory explained the observation that people with substantial resources are sometimes no happier than those with few resources and that people with severe problems are sometimes quite happy. Thus, the research of Brickman and colleagues became central to the way many scientists understand happiness.

We and many other psychologists readily accepted the theory of adaptation because evidence frequently supported the idea. External conditions are often weak correlates of reports of happiness. For instance, all demographic variables taken together predict less than 20% of the variance in happiness (Campbell, Converse, & Rodgers, 1976). Diener, Sandvik, Seidlitz, and Diener (1993) found that income and happiness in the United States correlate only .13, and Diener, Wolsic, and Fujita (1995) similarly found that objective physical attractiveness correlated at very low levels with reports of well-being. Perhaps even more surprising, Okun and George (1984) found that objective health on average correlated only .08 with happiness, and Feinman (1978) found that people who were blind did not differ in happiness from those who were able to see.

In addition, longitudinal studies that tracked changes in happiness over time provided more direct evidence that adaptation can occur. For instance, Silver (1982) found that individuals with spinal cord injuries reported strong negative emotions one week after their crippling accident. However, two months later, happiness was their strongest emotion. Similarly, Suh, Diener, and Fujita (1996) found that good and bad life events affected happiness only if they occurred in the past two months. More distant past events did not predict happiness (although many of the events they studied were relatively mundane). Furthermore, in a number of studies, researchers have traced reactions to the death of a spouse, and these studies show that emotional reactions eventually rebound after this major life event (e.g., Bonanno et al., 2002; Bonanno, Wortman, & Nesse, 2004; Lucas, Clark, Georgellis, & Diener, 2003). Thus, parts of the hedonic treadmill model have received robust empirical support (see Fredrick & Loewenstein, 1999, for a review).

Our Research on Adaptation

Over the last decade, we and others have tested predictions derived from the treadmill theory, and our findings suggest that the model requires important modifications. Although the revisions leave certain core features of the adaptation model intact, our research reveals that the idea is in need of an update. After reviewing these revisions, we describe the important implications that they have for psychology.

Revision 1: Nonneutral Set Points

The original treadmill theory suggested that people return to a neutral set point after an emotionally significant event. However, decades of research show that this part of the hedonic treadmill theory is wrong. Instead, most people are happy most of the time (Diener & Diener, 1996). For instance, Diener and Diener reviewed studies using a variety of methods of assessment, and they concluded that approximately three quarters of the samples they investigated reported affect balance scores (positive moods and emotions − negative moods and emotions) above neutral. Similarly, Biswas-Diener, Vittersø, and Diener (2005) found that even in such diverse populations as the Amish, African Maasai, and Greenlandic Inughuit, most people are above neutral in well-being. In the most recent World Values Survey (a large-scale survey in which the nations with the largest populations are sampled using probability methods; European Values Study Group & World Values Survey Association, 2005), 80% of respondents said that they were very or quite happy. Thus, if people adapt and return to a baseline, it is a positive rather than neutral one.

A general tendency to experience positive emotions may provide the motivation to explore one's environment and to approach new goals (Fredrickson, 1998). Lyubomirsky, King, and Diener (2005) showed that positive moods facilitate a variety of approach behaviors and positive outcomes. Thus, the ubiquity of a positive emotional set point, in concert with the less frequent experience of unpleasant emotions, likely results from the adaptive nature of frequent positive emotions.

Revision 2: Individual Set Points

The empirical research that has been conducted since the publication of Brickman and Campbell (1971) reveals that if people do have set points, they vary considerably across individuals. These individual differences are due, at least in part, to inborn, personality-based influences (Diener & Lucas, 1999). Support for this view comes from at least three different lines of research. First, research consistently shows that one's level of well-being is reasonably stable over time (e.g., Eid & Diener, 2004). Second, behavioral genetic studies show that well-being is moderately heritable. For instance, Tellegen et al. (1988) found that identical twins reared apart were much more similar in their levels of well-being than were dizygotic twins who were reared apart. Finally, research shows that personality factors are strong correlates of well-being variables. Whereas any single demographic factor typically correlates less than .20 (usually much less) with well-being reports, both self- and non–self-report measures of personality tend to correlate much more strongly with well-being (see Diener & Lucas, 1999, for a review). Thus, personality factors may predispose individuals to experience different levels of well-being.

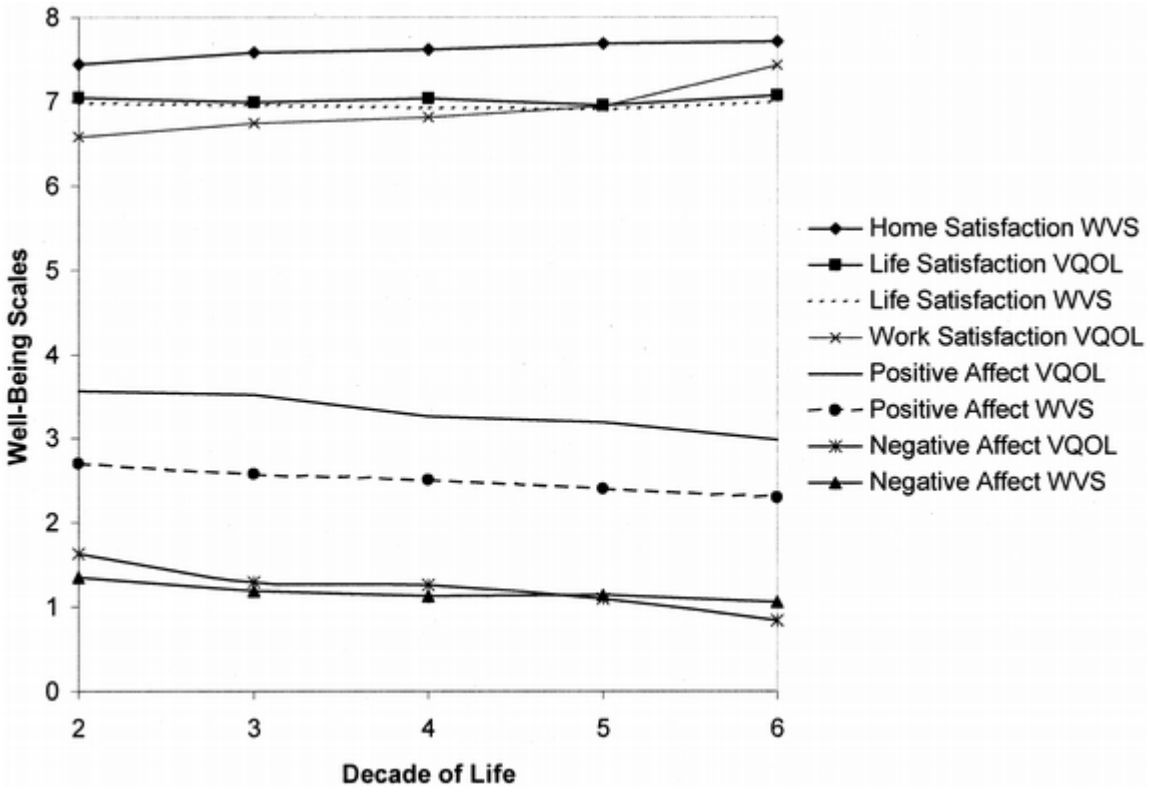
Revision 3: Multiple Set Points

The idea of a happiness set point implies that well-being is a single entity with a single baseline. However, work by Lucas, Diener, and Suh (1996) indicates that the global category of happiness is composed of separable well-being variables. It is important to note that these variables sometimes move in different directions over time. Thus, the idea of a unitary set point is not tenable, because positive and negative emotions might both decline in tandem or life satisfaction might move upward while positive emotions decrease.

In Figure 1, we present age trends in positive affect, negative affect, and life satisfaction from the first wave of the Victoria Quality of Life Panel Study (see Headey & Wearing, 1989, 1992; Scollon, 2004) and from the 1990 World Value Survey (Inglehart & Klingemann, 2000). Both studies are based on probability samples, the former from the state of Victoria in Australia and the latter from 42 nations around the world. As can be seen in this figure, there were significant age effects for all five variables (all ps < .001). However, these effects varied for the different well-being variables. For instance, at the same point in the life span that positive affect was declining (representing a decrease in overall well-being), negative affect also declined (representing an increase in overall well-being). During this same

period, both work and home satisfaction increased. These data indicate that (a) there is not a constant global happiness set point that remains stable over the course of the entire life span and (b) "happiness" is not a unitary concept with a single set point to which people adapt. Instead, these findings suggest that different forms of well-being can move in different directions (also see Easterlin, 2005).

Figure 1. Age Trends in Subjective Well-Being



We also used the longitudinal component of the Victoria Quality of Life Panel Study to examine change in well-being within persons over time. Specifically, we modeled change in work satisfaction and marital satisfaction over an eight-year period using growth curve modeling. Significant individual differences in change emerged on both variables, indicating that different people changed at different rates and in different directions (Scollon & Diener, 2005). It is important to note that the correlation between changes in the two variables was substantially less than 1 (r = .48), even at the latent level. This shows that the two variables do not always change in unison. Not all individuals who increased in work satisfaction increased in marital satisfaction. At best, only one quarter of the variance in change could be accounted for by the corresponding amounts of change in another variable. Thus, not only do the various well-being components change in different ways over the course of the life span, but changes in one domain do not fully correspond to changes in other domains.

As a final test of the separability of well-being components, we examined the stability of positive and negative affect over time in the Victoria Quality of Life Panel Study. We found that, consistent with the idea that there is no single set point, the various components exhibited differential stability. Specifically, long-term levels of negative affect were substantially more stable than were long-term levels of positive affect. In addition, the stability of positive affect and life satisfaction declined with longer time periods, whereas the stability of negative affect did not (see Table 1). These findings suggest that stable individual

baselines might be more characteristic of negative affect than positive affect. However, over a period of a few years, life satisfaction was most stable.

Table 1: *Stability of Subjective Well-Being Measures in the Victoria Quality of Life Panel Study and the German Socio-Economic Panel Study*

Table 1
Stability of Subjective Well-Being Measures in the Victoria Quality of Life Panel Study and the German Socio-Economic Panel Study

Time period between measurements	Positive affect[a]	Negative affect[a]	Life satisfaction[a]	Life satisfaction[b]
2 years	.37	.44	.61	.51
4 years	.32	.40	.50	.45
6 years	.32	.42	.44	.41
8 years	.23	.48	.43	.37

[a] Data are from the Victoria Quality of Life Panel Study. [b] Data are from the German Socio-Economic Panel Study.

Revision 4: Happiness Can Change

Perhaps the most controversial aspect of Brickman and Campbell's (1971) hedonic treadmill model is the idea that people cannot do much to change their long-term levels of happiness and life satisfaction. If the hedonic treadmill model is correct, adaptation is inevitable, and no change in life circumstance should ever lead to lasting changes in happiness. Although the work cited at the beginning of this article was suggestive of such an effect, until recently very little evidence has been available to provide longitudinal tests of this hypothesis. Thus, questions have remained about the extent to which important life events can permanently alter individuals' happiness set points.

One type of evidence demonstrating that life circumstances matter comes from well-being differences across nations. If there are strong national differences in well-being and these differences can be predicted from objective characteristics of those nations, then this would suggest that the stable external circumstances that vary across nations have a lasting impact on happiness. The first column of Table 2 presents affect balance scores (reported between 1981 and 1984) for several nations that differed markedly in affluence and human rights. The right column of Table 2 shows that these nations also differed in life satisfaction. Because the objective conditions in these countries remained consistent for many years, the cross-national differences in happiness suggest that people do not always completely adapt to conditions. Perhaps more important, these mean-level differences can be predicted from objective characteristics of the nations. For instance, Diener, Diener, and Diener (1995) found that the wealth and the human rights of nations were strong predictors of average national well-being. Similarly, researchers at *The Economist* found that 85% of the variance in national levels of well-being could be explained by nine objective characteristics, including gross domestic product per person, life expectancy at birth, political stability, and divorce rates (Economist Intelligence Unit, 2005). Furthermore, if people adapted to conditions, only change in conditions and not the long-term level of conditions would influence feelings of well-being. However, Diener and Biswas-Diener (2002) reviewed studies showing that national levels of wealth strongly predict the subjective well-being of nations, whereas change in wealth is inconsistent in its effects across studies.

Table 2: The Happiness of Selected Nations

Table 2
The Happiness of Selected Nations

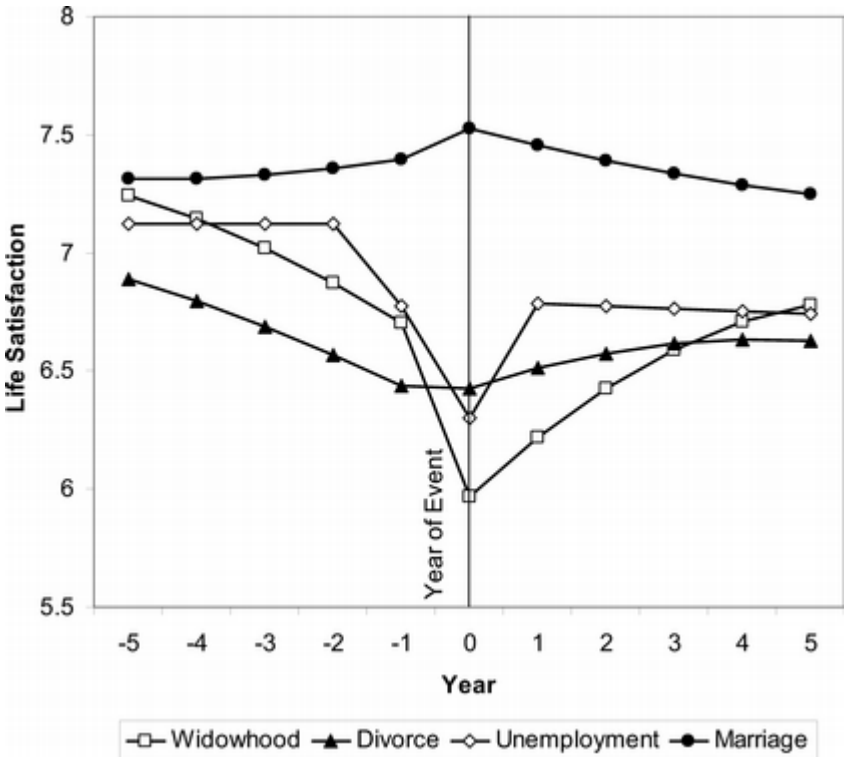
Nation	Affect balance (PA − NA), 1981–1984	Life satisfaction, 1999–2001
Canada	2.33	7.85
United States	2.23	7.66
China	1.46	6.53
West Germany	1.45	7.42
Mexico	1.38	8.14
India	0.72	5.14
Turkey	0.62	5.61
Russia	0.33	4.65

Note. Mean scores are taken from the World Value Survey, the Bradburn Affect Balance Scale, where affect balance can vary from 5 to −5, with 0 as the neutral point. The national differences in both positive affect (PA) and negative affect (NA) in the full sample are highly significant, $p < .001$. Life satisfaction scores, with a range of 1 to 10, were taken from the European Values Study Group and World Values Survey Association (2005) Data Wave 1999–2001.

This cross-sectional evidence that circumstances matter is supported by more definitive longitudinal studies examining individuals over time. For instance, Fujita and Diener (2005) used longitudinal data to determine whether long-term average levels of happiness ever change. They examined changes in baseline levels of well-being over a 17-year period in a large and representative sample from Germany. Although there was considerable stability in happiness reports, 24% of respondents changed significantly from their early baseline, comprising the first five years of the study, to the last five years. Nine percent changed by approximately two standard deviations or more. Thus, long-term levels of happiness do change for some individuals. The more intriguing question, then, is why happiness set points change for some individuals more than for others.

Using the same sample of Germans, we have examined the ways that specific life events influence happiness. In support of the initial adaptation model, people do seem to adapt to some life events. For instance, Lucas et al. (2003) showed that, on average, Germans did not get lasting boosts in happiness after marriage. Instead, they reported short-term increases in happiness that were followed by relatively quick adaptation. However, the extent of adaptation varies for different life events. Lucas et al. (2003) showed that widows and widowers, people who were laid off from work (Lucas, Clark, Georgellis, & Diener, 2004), and individuals who divorced (Lucas, 2005b) all reported long-lasting changes in life satisfaction after these life events. The widows showed the greatest amount of adaptation (at least in terms of the absolute increase from their lowest level of happiness), but even this took about eight years and was not quite complete. Figure 2 shows life satisfaction levels before and after these four important life events.

Figure 2. Adaptation to Good and Bad Events



Together these results suggest that happiness can and does change. What then should be made of the classic empirical findings of Brickman et al. (1978)? First, it should be noted that when Brickman et al.'s results are examined closely, the evidence for adaptation is not nearly as strong as many psychologists have tended to assume. In the case of individuals with spinal cord injuries, Brickman et al. did find that the participants who were disabled reported significantly less happiness than did controls. In fact, when we calculated standardized mean differences in general happiness from Brickman et al.'s data, we found that the difference between the spinal cord–injured and control groups was about 0.75 standard deviations—an effect that most psychologists would consider large. Similar effects have been found numerous times: Authors of a number of recent reviews have concluded that individuals with spinal cord injuries are less happy than are people in the general population, with effect sizes in the moderate to large range (Dijkers, 1997, 2005; Hammell, 2004). However, the studies cited in these reviews are often published in rehabilitation journals and are rarely cited in psychological literature on adaptation.

Finally, Lucas (2005a) used two large, nationally representative panel studies to examine adaptation to the onset of disability. Participants in this study (who were followed for an average of seven years before and seven years after onset) reported moderate to large drops in satisfaction and very little evidence of adaptation over time. For instance, those individuals who were certified as being 100% disabled reported life satisfaction scores that were 1.20 standard deviations lower than their nondisabled baseline levels. Thus, although people with paraplegia and other individuals with disabilities usually are not subjectively miserable, happiness levels do seem to be strongly affected by this important life circumstance. When compared with the actual variability between individuals in happiness rather than with the extreme endpoints of the scale, many of the group differences in happiness are substantial.

It should no longer come as a surprise that people living in negative circumstances report well-being scores that are above neutral. This well-documented fact is interesting and theoretically important, but it should not be used as evidence that people inevitably adapt. Furthermore, it is not enough for researchers interested in adaptation to show that people who have experienced a negative life circumstance report well-being scores that are higher than what other people would think they should report (e.g., Brickman et al., 1978; Riis et al., 2005). Such research findings tell more about the average person's affective forecasting errors than about adaptation itself (Gilbert & Wilson, 2000). To determine whether adaptation has occurred, it is necessary to compare individuals who have experienced an event or life circumstance with those who have not, ideally following the same individuals over time.

Revision 5: Individual Differences in Adaptation

An implicit assumption of the hedonic treadmill theory is that adaptation to circumstances occurs in similar ways for all individuals. If adaptation results from automatic and inevitable homeostatic processes, then all individuals should return to neutrality or at least to their own unique baseline. But we have found individual differences in the rate and extent of adaptation that occurs even to the same event. In our longitudinal studies, the size and even the direction of the change in life satisfaction varied considerably across individuals. For example, Lucas et al. (2003) found adaptation to marriage at the aggregate level, but there was a great deal of variability in these effects. Individuals who reacted most positively to their marriage tended to be above their baseline many years after the event, but these individuals were counterbalanced by those who experienced a lasting decline in satisfaction after their marriage. In fact, the standard deviation for the amount of change that occurred after the event was almost as large as the standard deviation for baseline levels.

Understanding individual differences in adaptation will help illuminate when and why adaptation does or does not occur. For example, in our study on reaction and adaptation to marriage (Lucas et al., 2003), we relied on laboratory studies of emotional reactivity (e.g., Larsen & Ketelaar, 1991) to predict that the happiest individuals should react most strongly to positive life events. However, the results showed—somewhat surprisingly—that less satisfied individuals were more likely to benefit from marriage in the long run. These individuals with initially low baselines reported more positive reactions to marriage, and these positive reactions persisted long into the marriage. One explanation for this effect is that the most satisfied individuals are more likely than less satisfied individuals to have strong social support even before the marriage. People who chronically experience many positive events may have less to gain from one more positive event. Likewise, people who chronically experience many bad events may not be strongly affected by the addition of one more negative life event. Therefore, deviations from a person's typical life events might produce the greatest changes in happiness set points (Headey & Wearing, 1992; Oishi, Diener, Choi, Kim-Prieto, & Choi, 2005).

Two important research traditions shed light on when people adapt or do not adapt to negative events. The first of these traditions focuses on the utility of specific coping strategies. The second focuses on personality characteristics that influence the specific coping strategies that people use. From these literatures, it is known that certain coping strategies are more effective than others and that individuals vary in their preferred strategies. For example, individuals who tend to use reappraisal strategies experience more positive emotions and fewer negative emotions than do individuals who use strategies such as suppression (Gross & John, 2003). Using reappraisal is also associated with having better interpersonal relationships, which are likely to translate into increased social support. Similarly, among older people, the endorsement of coping styles such as using humor, seeking information, and "keeping going" predicts adjustment to old age (Staudinger & Fleeson, 1996).

Personality researchers have shown that a number of stable individual differences predispose people to use certain coping strategies (Carver, Scheier, & Weintraub, 1989). For example, neurotic individuals often choose ineffective strategies for coping, which can lead to greater reactivity to a stressful event

(Bolger & Zuckerman, 1995) and possibly a slower return to baseline levels of happiness. Similarly, Ferguson (2001) found that neuroticism and introversion were associated with relatively ineffective coping behaviors such as denial. However, optimistic individuals tend to engage in active coping or strategies that can actually change the situation that is causing negative affect (Aspinwall & Taylor, 1997; Chang, 1998; Scheier, Weintraub, & Carver, 1986). Such strategies often pay off by leading to a resolution of the stressful situation. Optimistic people also tend to seek out social support, engage in positive reappraisal of adverse events, and feel as if they have the resources to overcome stressful situations (Scheier et al., 1986)—all factors that help buffer against the long-term effects of negative life circumstances. For example, optimism has been shown to predict problem-focused coping and quicker recovery from surgery (Scheier et al., 2003). Thus, there appear to be individual differences in effective coping and adaptation to stressful events.

Research on individual differences in adaptation raises questions about the processes that underlie adaptation effects. If adaptation is an inevitable and automatic process, it should occur in similar ways for most people, much as homeostatic processes work to return all people to their body temperature set point. The fact that substantial individual differences in these effects exist argues against this type of inevitable habituation model. It also suggests that research into these individual differences may help psychologists understand exactly how adaptation occurs. However, at this point, it is unclear whether there is a relatively automatic core habituation process that can be modified by coping and other variables or whether adaptation and coping are synonymous. Future research must incorporate measures of coping (along with other potential moderators and process variables) into sophisticated longitudinal studies that allow for strict tests of adaptation effects.

Recent research has provided a much stronger test of the hedonic treadmill than earlier studies did because of methodological refinements. First and most important, by relying on very large samples, researchers in recent studies have been able to track individuals from before an event happens to the time of the event to many years after the event. By contrast, earlier researchers drew conclusions from cross-sectional data in which prevent levels of life satisfaction of groups such as lottery winners or people with paraplegia were unknown. Second, large longitudinal designs allow for more precise measurement of changes in happiness over time and more powerful statistical methods that go beyond examinations of group means to reveal individual differences in adaptation. Finally, recent studies have used large and often representative samples of participants, unlike early studies that frequently used small accidental samples.

Implications of the Revised Model

If revisions must be made to the original hedonic treadmill model, is adaptation still an important concept for psychological research? We answer with a resounding "yes." Although recent studies have challenged the idea that adaptation is inevitable, people do adapt to many life events, and they often do so within a relatively short period of time. Thus, adaptation processes can explain why many factors often have only small influences on happiness. People tend to adapt to these conditions over time.

However, recent findings do place limits on the types of psychological processes that can account for the adaptation that does occur. For instance, initial models that relied on automatic physiological systems to account for hedonic adaptation will likely not be able to fully account for all existing data. Instead, more flexible processes are likely involved, and these processes may vary across events and individuals or even within the same individual over time. The research on coping with adversity will be a useful starting point for investigations of adaptation. However, processes related to adaptation to positive events must also be explored.

Newer theories of adaptation (e.g., Kahneman & Thaler, in press; Wilson & Gilbert, 2005) rely on individuals' attention to particular life circumstances in explaining the changes. Kahneman and Thaler, for instance, posited that various features of a specific life circumstance might influence whether it draws a person's attention. It is this attention that determines whether an individual can adapt. Thus, Kahneman and Thaler predicted that conditions that continue to draw attention can influence well-being but that the novelty of certain circumstances wears off and therefore they draw less attention over time. Wilson and Gilbert further suggested that people naturally seek to explain and make sense of life events and circumstances. Features of one's life that cannot be explained continue to draw attention and thereby affect one's emotions and overall well-being. Experience-sampling reports over time of the stimuli to which people attend are needed to test attention theories. Whether these attention theories can predict greater and less habituation has not yet been rigorously tested.

Our revisions to the hedonic treadmill model suggest that interventions to increase happiness can be effective, and research supports this conclusion. These changes might be targeted at the individual, organizational, or even societal level. For instance, in an early set of studies, Fordyce (1977, 1983) demonstrated in seminal studies that a multipronged program successfully raised individuals' happiness for an extended period of time. These gains in well-being persisted over a period of a year or more. Perhaps because of the widely accepted view that happiness could not be changed, however, few rigorous studies have been conducted to follow up on this work. Very recently, this has begun to change. For instance, Sheldon and Lyubomirsky (2004) demonstrated that changes in activities raised people's happiness. They found that when individuals performed several random acts of kindness on one day each week, their happiness improved. Seligman, Steen, Park, and Peterson (2005) reported a series of happiness interventions that were implemented via the Internet. They found that several of these interventions led to changes in happiness that persisted for at least six months. Finally, Emmons and McCullough (2003) found that interventions to increase thoughts of gratitude increased levels of positive affect. Although these experimental intervention studies are in the initial stages, they indicate that levels of happiness can be raised. Again, this contradicts the idea of an unchangeable baseline for happiness. If interventions can cause lasting changes among individuals, it may also be possible for organizations to adopt macrolevel policies that raise well-being for larger groups. For instance, organizational psychologists strive to make the workplace engaging and interesting. These benefits might be worthwhile in themselves, or the increased happiness that they provide may lead to increases in organizational citizenship and productivity. Similarly, community psychologists strive to enhance the quality of life within neighborhoods and cities. Our findings that baseline happiness can change, along with new studies showing that interventions can raise levels of happiness, provide an optimistic foundation for the various fields of applied psychology.

Finally, if organizational policies can have an impact on the happiness of large groups, it may be possible to change the happiness of a society as a whole. Philosophers such as J. S. Mill and Jeremy Bentham maintained that the best society is one where the greatest numbers of citizens experience the most happiness. Echoing this sentiment, Diener and Seligman (2004) called for a system of national accounts of well-being in which people's happiness, meaning, and engagement are assessed over time and in various situations. The goal of such a program would be to help policymakers understand when and why people are miserable and when and why they are happy. This information would then allow policymakers to develop programs to reduce misery and enhance happiness. Furthermore, it is hoped that national accounts of well-being might lead to policies that would heighten the engagement, joy, trust, and affection of ordinary citizens who do not have extraordinary problems. Fortunately, our findings indicate that the goal of creating a happier society is not doomed by the hedonic treadmill.

Although the research reviewed in this article provides an optimistic picture of the possibility for change, the processes of adaptation must still be carefully considered when designing and assessing well-being interventions. People might initially react positively to interventions just as they do to naturally changing

conditions, but over time they may adapt to the intervention and return to their former levels of well-being. Thus, effective interventions must change people's baseline well-being, and measurements must be repeated over a long period of time to rule out the possibility that the effectiveness of the intervention is only temporary. A strong understanding of adaptation theories will enable researchers to develop programs with a great likelihood of long-term success.

Future Research and Conclusions

Although researchers have made progress in understanding adaptation, several key issues remain. First, an overarching question concerns the factors that lead to lasting change. Why do adaptation effects appear to vary across different events and circumstances? Although some theories (e.g., Kahneman & Thaler, in press) offer predictions about the differential adaptation across varying events, these theories do not seem to explain the full set of results. For instance, it is unclear why people seem to exhibit a lasting effect of unemployment on well-being even after they become reemployed. A corollary question concerns how much control people have over adaptation: Can people slow adaptation to good events and speed recovery from bad events? Another important challenge is differentiating passive acceptance of negative circumstances versus active coping and a positive resolution of events. Finally, our studies raise the issue as to whether some components of well-being adapt more readily than others. For instance, do cognitive evaluations such as satisfaction adapt more slowly than moods and emotions? These are exciting unanswered questions about adaptation, questions that will need to be answered before fully effective interventions can be designed.

The treadmill model of happiness posited by Brickman and Campbell (1971) represents a milestone in psychologists' understanding of happiness, and our longitudinal findings on marriage support the treadmill idea. Our findings also indicate that different types of well-being may change at different rates or even in different directions. Furthermore, both experimental and longitudinal studies now show that the strong form of the adaptation theory is untenable. Adaptation may proceed slowly over a period of years, and in some cases the process is never complete. Finally, there are individual differences in the rates of adaptation.

Those who provide interventions aimed at improving subjective well-being need to understand the patterns involved in adaptation so that successful interventions can be designed. Although some of the studies we described involve changes in life circumstances that are extreme, other studies suggest that smaller interventions can make a difference. Adaptation is a powerful force, but it is not so complete and automatic that it will defeat all efforts to change well-being. The exciting research challenge is to discover the factors that control the adaptation process. Fortunately, research on coping, personality traits, and the effectiveness of interventions all offer clues about factors that influence adaptation. With the understanding that adaptation may be incomplete and varies across persons, the efforts to understand adaptation should be amplified.

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