

15. Change your actions, not your circumstances: an experimental test of the Sustainable Happiness Model

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Is it possible to become a happier person? This is an enormously important issue for subjective well-being (SWB) researchers, as well as for the burgeoning field of positive psychology (Seligman and Csikszentmihalyi, 2000; Sheldon, 2004). Indeed, if happiness cannot be lastingly increased, then one of the basic premises of positive psychology is suspect – namely, that positive psychology is about more than curing disorders or ‘bringing people back to 0’, but is instead about helping to move people ‘beyond 0’, to new heights of fulfillment and satisfaction (Seligman, 2002).

The question of whether SWB can be sustainably improved naturally arises from the growing consensus that SWB is strongly influenced by genetics, with a heritability of around 0.50 according to twin studies (Diener et al., 1999). The behavioral genetics research implies that there may be a genetically-determined ‘set-point’ for SWB, to which people are bound to return over time (Lykken and Tellegen, 1996; Tellegen et al., 1988). In other words, SWB may be the result of a homeostatic process that resists deviations away from a pre-determined baseline (Cummins, 2003). If this is true, then trying to become happier may be as fruitless as ‘trying to become taller’ (Lykken and Tellegen, 1996, p. 189). A further implication is that developing the strengths (Peterson and Seligman, 2004) and engaging in the practices (Emmons, 2007) emphasized by positive psychology researchers can have no lasting effect on peoples’ state of mind. Of course, such strengths and practices may provide other benefits besides permanently enhanced SWB, but elevating personal happiness is surely a predominant goal underlying many self-improvement efforts (Myers, 1991).

The empirical literature on longitudinal SWB provides further reason for pessimism regarding the feasibility of the goal of enhancing well-being. In a four-year panel study, Headey and Wearing (1989) showed

that, although participants varied around their own baseline over time as a function of various positive and negative life events, they tended to return to that baseline – a process Headey and Wearing referred to as ‘dynamic equilibrium’ (see also Suh et al., 1996). Lucas et al. (2003) analysed large-N longitudinal data and found that, although positive events such as marriage afford a temporary boost in SWB, this boost is transient, typically fading within a couple years. Even more worrisome, Lucas and his colleagues have shown that major negative events such as injury, divorce and unemployment can have negative effects that do persist over time (Lucas, 2005, 2007; Lucas et al., 2004). For example, a sample of spinal cord patients evidenced sharp declines in happiness with only a minimal rebound over time, stabilizing at a level far below their pre-injury baseline (Lucas, 2007). Together, these findings once again generate pessimism regarding one of positive psychology’s central aims and promises. Perhaps, rather than trying to improve their happiness (an unfeasible goal), people should instead focus on avoiding catastrophic events that could permanently detract from their well-being.

Yet another reason for pessimism arises from literature suggesting that people have a powerful capacity to adapt to change – not just to sensory and perceptual changes, but also to changes that have positive or negative emotional implications. For example, Brickman et al.’s (1978) findings suggest that lottery winners may adapt to their newfound financial status, returning to their prior emotional baseline over time, and Biswas-Diener and Diener (2001) showed that even street-dwelling prostitutes in Calcutta evidence surprising equanimity and even cheerfulness with their lot. The general tendency to adapt to emotion-relevant change has been termed hedonic adaptation or the ‘the hedonic treadmill’ (Brickman and Campbell, 1971; Frederick and Loewenstein, 1999). From this perspective, trying to make happiness-relevant changes is like trying to walk up a descending escalator: your circumstances may get better for a while, but you will get used to those circumstances, cease to notice them and be brought back to your own ‘ground floor’ of experience. In other words, as their circumstances improve (for example, they move to a more upscale neighborhood) and as the targets of their social comparisons increase in turn (for example, they notice that their neighbors throw even fancier parties), people raise their aspirations for the future (Easterlin, 2001; Kahneman, 1999; Stutzer, 2004), taking the previous advances for granted and now demanding even further improvement.

Is there hope? Yes, according to the Sustainable Happiness Model (SHM; Lyubomirsky et al., 2005b; Sheldon and Lyubomirsky, 2004; 2007), which directly addresses the question of whether it is possible to boost and maintain one’s level of SWB. The SHM divides the possible

influences on SWB into three broad categories: genetics, circumstances and activities. Genetics represents the 'set-point', the temperamental and psychobiological characteristics with which one is born, which will have a strong and lasting influence. Again, the most common estimate for the heritability of SWB is approximately 0.50, so genetics presumably account for half of the variance in SWB. Circumstances represent a person's demographic profile (gender, ethnicity, income, health status), as well as the influence of non-psychological variables, such as a person's possessions, geographic location and immediate surroundings. The central characteristic of circumstances is that they tend to be relatively unchanging over time. Because of their static nature, people tend to adapt to their circumstances, even life changes such as 'moving to California' (Schkade and Kahneman, 1998). These adaptation processes likely explain the relatively small influence of circumstances on SWB (approximately 10 percent of the variance, or slightly more; Andrews and Withey, 1976; Diener et al., 1999).

The remaining 40 percent of the variance, according to the SHM, is accounted for by what people do, that is, the intentional activities that they undertake within their daily lives, for good or ill, and with varying degrees of pleasure and success. Of course, 'activities' is a very broad category, and one that can overlap with 'circumstances', because many circumstances require activity to bring about, and because circumstances provide for differing kinds and amounts of activity. Still, the SHM focuses on the activities category as the route that offers the best potential for sustainably increasing one's SWB. Peoples' genetics are immutable, and their circumstances are generally alterable but subject to quick adaptation. In contrast, peoples' activities are also alterable, but are less subject to quick adaptation. According to the SHM, intentional activities have the capacity to resist adaptation because they are changeable – that is, they can be optimally varied, developed, timed and modified. One need not always do an activity at the same time of day, in the same place, in the same way, and with the same goals and purposes.

For example, consider a person who initiates the activity of running as part of their daily health and self-maintenance efforts. This can be done with a sense of resignation and drudgery, but it can also be practiced as a way to obtain positive experiences. For example, running can be varied: one can run in different places (the state park versus one's neighborhood versus on a track), at different times (before work versus after) and with different purposes (to defuse a stressful day versus to lose weight versus to experience a new footpath through the woods). Also, one can run in ways that provide a wide variety of positive experiences, for example, one can run with a friend to catch up on each other's lives or with a camera to catch the morning light. Also, one can set goals that further enhance the interest

and appeal of the activity – for example, to complete a half-marathon six weeks hence or to run every single trail in the nearby forest. The key, according to the SHM, is to engage in activity in such a way as to provide a continual stream of fresh, positive experiences. Of course, this is not easy, but it has the advantage of being an enjoyable adventure; after all, people are naturally inclined to find and follow intrinsic motivations, and to seek states of absorption and flow (Csikszentmihalyi, 1997; Deci and Ryan, 2000). However, as soon as the activity becomes rote or routinized, then its potential to influence SWB diminishes.

Another way to illustrate the propositions of the SHM is via a within-subject regression equation in which SWB at time t is influenced by three major classes of factors: genetic/temperamental, circumstantial/demographic and activity/motivational. The genetic set-point defines the intercept or expected value, all other factors being equal. This factor is theorized to be fixed and stable over time. Circumstances (positive or negative) have the potential to contribute positively or negatively to SWB at time t , but these effects are relatively small and tend to fade over time (that is, one might include a circumstances X time elapsed interaction term in the equation). Activities (positive or negative) have a larger potential to contribute to SWB at time t , because they can provide dynamically varying experiences. The SHM also emphasizes that the activity effects likely depend on a variety of moderators, such as how diligently or successfully one performs the activity, how well the chosen activity fits one's personality and interests, and how much one varies the manner and timing of activity (Lyubomirsky et al., 2005b). These moderators could also be modeled as part of the equation.

As this regression metaphor illustrates, the set-point should probably not be construed as a point, but rather as a range, which is in part defined by the set-point at the middle, but which is also defined by current life characteristics, both static and dynamic. The goal, then, is to construct one's life in such a way that one stays in the upper half of one's set range, finding ways to remain at a level of happiness that is higher than one's genetics alone would dictate. Again, the SHM asserts that intentional activities provide the only feasible way to do this, and only under the right conditions.

Some published data supports these ideas. Sheldon and Houser-Marko (2001) showed that successful goal striving during the freshman year of college could produce enhanced SWB at the end of the first semester and again at the end of the second semester, which the authors referred to as an 'upward spiral' of well-being. Furthermore, successful goal striving was more likely if students chose 'self-concordant' goals for the first semester, that is, goals that better fit their interests and values (see also the results of Lyubomirsky et al., 2007). Sheldon (2008) followed up this sample in the

senior year, showing that freshman goal progress still predicted enhanced SWB three years later. Thus, by engaging successfully in the activity of pursuing self-appropriate goals during their first year, students were able to enhance their emotional state for their entire college career.

More recently, Sheldon and Lyubomirsky (2006) directly tested the key postulates of the SHM via two 12-week longitudinal studies. In both studies participants' SWB was measured at an initial time point, using measures including positive affect, negative affect, life satisfaction, subjective happiness and Ryff and Keyes's (1995) psychological well-being scales. At a second time point six weeks later participants again rated their SWB, then rated to what extent they had experienced a positive circumstance change or a positive activity change since the beginning of the study. 'Circumstances' were defined as 'facts about your life, such as living arrangement, monetary situation or course load. For example, you may have moved to a better dorm or better roommate, received an increase in financial support so you can have more fun, or dropped a course that you were really going to have trouble with.' An 'activity' was defined as 'something you chose to do or get involved in, which takes effort on your part. For example, you may have joined a rewarding new group, club or sports team, decided on a major or career direction which makes it clear what to focus on, or taken on some other important new project or goal in your life.' Finally, SWB was measured again, 12 weeks after the study's beginning.

For every measure and in every study, the same pattern applied: both participants who reported a positive circumstantial change and those who reported a positive activity change evidenced enhanced SWB at Time 2, compared to their own baselines and compared to the group that reported no positive changes. However, by Time 3, the gains of the circumstantial change group had entirely faded, whereas the gains of the activity change group tended to persist. In other words, only the activities group experienced 'sustainable change' (at least over this 12-week period).

A third study by Sheldon and Lyubomirsky (2006) compared the two types of changes in a different way, by asking participants to self-select into the study because they had either recently experienced a positive activity change or a positive circumstance change (defined in the same way as above). Upon reporting to the laboratory, participants were asked to describe the change they had experienced. Examples of listed circumstantial changes included: 'I learned that I won't have to be in a lottery in order to get in my Broadcast 1 class', 'My roommate at the beginning of the semester was a cocaine addict; she is no longer my roommate' and 'This week I found out that I received a scholarship that I wasn't expecting at all.' Examples of listed activity changes included: 'When I first got here my classes seemed hard and I didn't study as much as I should have. I set

myself a goal to study for at least five hours a day and now my classes are going a lot better for me', 'I enrolled in a class that is helping me to figure out a correct career choice for me' and 'I used to not ever go to church but now I am going to Campus Crusade for Christ meetings, and God is more a part of my life than He ever has been.'

The chief findings of this third study were that, relative to the circumstantial change group, the activity change group (a) rated themselves as having put more intentional effort into making their change happen, (b) reported that their change provided a greater variety of experiences, and (c) reported that they had habituated less to their change, that is, had not 'gotten used to it' as much. The latter two characteristics helped to account for activity changes' relatively stronger association with positive affect. In other words, as we predicted, activity changes were less prone to affective adaptation or 'the hedonic treadmill' than circumstantial changes. Notably, these three findings are further supported by recent studies from our laboratory that have shown that 'happiness interventions' are more successful at increasing and sustaining personal happiness levels when participants invest effort in the intervention (Lyubomirsky et al., 2007), when they vary their activities (Boehm et al., 2007) and when they try to appreciate what they have (Lyubomirsky et al., 2005b, 2007).

However, an important limitation of the Sheldon and Lyubomirsky (2006) research was that participants either self-selected into the 'positive activity change' and 'positive circumstance change' categories or rated these two changes by self-report. As a consequence, their membership or scores within these categories might reflect personality or situational variables that have little to do with any actual activity or circumstance changes within their lives. Conversely, those who selected themselves into a 'no positive change' category or rated little positive change of either type may be revealing more about their dispositions than about what changes they have or have not recently made. The SHM would be better supported if the same pattern of effects could be shown using an experimental methodology with random assignment. If this occurred, then we could more confidently recommend that it is better to start a new activity (that is, join a group, practice an exercise or pursue a goal) than to change one's circumstances (that is, buy a new car, move to a new state or obtain a face lift). The purpose of this chapter is to present some initial data bearing on this issue.

15.1 STUDY OVERVIEW AND PROCEDURE

We measured participants' SWB at Time 1 (T1), and then randomly assigned them to make a circumstance change or an activity change in their

lives. We then measured their SWB twice more, to examine the temporal shape of the curve for all three groups. Could we replicate the findings of Sheldon and Lyubomirsky (2006) to show that only the activity change group would demonstrate maintained change at Time 3 (T3)? Notably, although we requested of our participants to make certain changes in their lives, we could not force them to do so. Thus, an additional feature of the study was to assess, at Time 2 (T2), whether participants actually made the requested change. Our hypotheses apply primarily to those participants who followed through with the change they listed. Thus, our study design was a 2 (group: circumstance change versus activity change) \times 2 (change: made versus not made) \times 3 (time of assessment: T1, T2, or T3) factorial design, with repeated measures on the third factor.

A total of 113 participants were introduced to the study in small group sessions. Upon arriving at the laboratory, participants first completed an initial well-being questionnaire. Then the research assistant said to all of them:

In this research, we are studying positive mood, and the factors that sustain it. We will assess your mood and happiness several times during this semester, to see how they fluctuate. We will also ask you to do something during this time that might affect your mood. This 'something' has already been shown to have significant positive effects on peoples' lives, and we want to further examine its potential.

As can be seen, we chose to inform all participants of the purpose and possible benefits of the study, reasoning that this might enhance their motivation.

Participants assigned to the 'activities' condition ($n = 60$) were then told:

You have been randomly assigned to change something about your activities and goals in life. 'Goal/activity' means something you choose to do or get involved in, which takes continual effort on your part. For example, you might join a rewarding new group club, or sports team, decide on a major or career direction which makes it clear how to focus your life, or take on some other important new project in your life. In all of these cases you are taking on a new activity or commitment, which you think will have a positive effect in your life.

Participants were then asked to:

think of the single best new life activity or goal that you could start doing in the next couple of weeks. This should be some change that you can make relatively easily – something that you've been ready to take on and start doing, that you can go ahead and begin. But making this simple change should have a strong positive effect on your mood and life satisfaction.

Participants wrote down the change they wished to make. The circumstances group ($n = 53$) was instead told:

You have been randomly assigned to change something about the external circumstances of your life. ‘Circumstances’ means ‘facts’ about your life, such as living arrangement, monetary situation or course load, which require a one-time effort on your part to change. For example, you might buy yourself something you need or want; arrange to get an on-campus parking permit or drop a course that you were really going to have trouble with. In all of these cases you are making a one-time change regarding your living arrangements or life circumstances that you think will have a positive effect in your life.

Participants were then asked to:

think of the single best change in your life circumstances you could make in the next couple of weeks. This should be some change that you can make relatively easily – something that’s been needing to be done, that you can go ahead and take care of. But making this simple change should have a strong positive effect on your mood and life satisfaction.

Participants wrote down the change they wished to make.

Two weeks later participants were emailed a link to an online questionnaire in which their well-being was first assessed; then they were asked whether they had made the designated change (yes or no). If they had, they were asked further questions about the change. Finally, four weeks later participants were emailed a link to a final questionnaire in which their well-being was assessed and then further questions were asked about the change.

15.2 STUDY MEASURES

15.2.1 Well-being

At all three time points, participants completed the positive affect scale and the negative affect scale from the 20-item Positive and Negative Affect Schedule (Watson et al., 1988). We computed an ‘affect balance’ score at each time point by subtracting negative affect from positive affect (Diener et al., 1999). This allowed us to consider the relative predominance of positive mood compared to negative mood within the participant’s life, particularly as this balance shifts over time. Such affect measures are both theoretically linked (Diener, 1984) and intercorrelated (Busseri et al., 1994) with other measures of well-being, such as happiness and satisfaction with life.

15.2.2 Self-concordant Motivation

An important feature of the SHM is that the ‘fit’ between the person’s personality and the person’s change should make a difference (Lyubomirsky et al., 2005b). In other words, one must not make just any change, but, instead, must select a change that is important to who one is, and that one can stand behind. To assess this factor, we relied on Sheldon and colleagues’ self-concordance measure (Sheldon and Elliot, 1999; Sheldon and Houser-Marko, 2001), which is based on self-determination theory (Deci and Ryan, 1985, 2000). Specifically, at Time 1, we asked participants to rate ‘why you might make this change, in terms of each of the following reasons’. The four reasons provided were: ‘because somebody else wants me to, or because my situation will force me to’, ‘because I would feel ashamed, guilty or anxious if I don’t do it; I will force myself’, ‘because I value and identify with doing it; I will do it freely even when it is not enjoyable’ and ‘because I will really enjoy doing it; I will find it to be interesting and challenging’. These four reasons (external, introjected, identified and intrinsic, respectively) are located on a continuum, ranging from not at all internalized (that is, external motivation) to completely internalized (that is, intrinsic motivation; Deci and Ryan, 2000). An aggregate self-concordance measure was computed by subtracting external and introjected ratings from identified and intrinsic ones. Sheldon and Elliot (1999) and Sheldon and Houser-Marko (2001) have argued that in the case of self-generated personal goals and initiatives, this measure represents the fit between the goal and the person’s inherent interests and values. We treated it as such in this research (see also Sheldon and Lyubomirsky, 2006).

15.2.3 Additional Measures

We administered further measures at Time 1. In one measure we asked participants to rate ‘how much effort will you have to put into making the change?’ This was to test the SHM’s postulate that activity changes require relatively more effort to carry out, because they involve instigating a program of volitional activity, not just making a one-time alteration in one’s circumstances. In addition, we asked participants to make affective forecasts regarding the anticipated effects of the change on their mood, by rating ‘To what extent do you expect this change to affect your levels of positive mood’ and ‘To what extent do you expect this change to affect your levels of negative mood.’ The aim was to examine whether people are aware of the hypothesized difference between activity changes and circumstance effects, in terms of their potential impact on mood. We made no hypotheses concerning the forecast variables, although previous affective

forecasting research suggests that people often make erroneous judgments about their future emotional states (see Wilson and Gilbert, 2003, 2005, for reviews).

At Times 2 and 3 we administered additional measures to only the group of participants who reported at Time 2 that they had made the change (as it did not make sense to ask about a change that did not occur). These measures were designed to test other predictions derived from the SHM. To this end, participants rated at Time 2 ‘To what extent is the change something that varies over time, that is, something that adds variety to your life?’ This was to test the SHM’s postulate that activity changes are more effective when people vary how they do the activity, as in the aforementioned example of the runner. At Time 3 participants rated ‘To what extent are you still aware of the change, that is, do you still think about the change?’ This was to test the SHM’s postulate that the change will cease to affect SWB if one begins to take it for granted; in order for the change to continue to have effects and to resist adaptation, one must remain cognizant of it.

15.3 STUDY RESULTS

15.3.1 Preliminary Results

We first tested for pre-manipulation differences in Time 1 affect balance between the two conditions. As would be expected given random assignment, the activity and circumstance groups were equivalent at the beginning of the study ($M_s = 1.48$ versus 1.42 , respectively, $p > 0.50$). Also, there were no differences on Time 1 positive affect and negative affect examined separately. We then tested for differences on the Time 1 variables rated after the manipulation. First, there were no differences between the activity and circumstances group on either the positive affective or negative affective forecast variables (both $p_s > 0.50$). For the positive affective forecast, both groups were slightly over 4 on a 5-point scale ($M_s = 4.01$ and 4.02), equally expecting the change to have a strong positive effect on their moods. Also, for the negative affective forecast, the two groups equally expected the change to help reduce their negative moods in life ($M_s = 3.52$ and 3.49 , respectively). This suggests that participants did not share our theory-based expectation that activity changes would be relatively more beneficial.

However, activity-change participants did report more self-concordant motivation to make the change than did the circumstance-change participants ($M_s = 3.77$ versus 3.32), $t(111) = 3.00$, $p < 0.01$. This effect was due

Table 15.1 *Affect balance means split by condition and whether the change was made*

	Activity Change			Circumstance Change		
	T1	T2	T3	T1	T2	T3
Not Made	1.58	0.76 (<i>n</i> = 21)	1.26	1.42	1.26 (<i>n</i> = 17)	1.21
Made	1.42	1.62 (<i>n</i> = 39)	1.68	1.42	1.48 (<i>n</i> = 36)	1.26

largely to a difference in rated intrinsic motivation to make the change, that is, activity participants expected to enjoy their change more than did circumstance participants. Furthermore, activity-change participants reported that making their change would require more effort ($M_s = 3.97$ versus 3.57 , $t(111) = 2.30$, $p < 0.05$). Both of these findings are consistent with the SHM's claim that activity changes are more engaging but also require more effort and commitment to enact.

15.3.2 Hypothesis Tests

Our primary hypothesis was that actually making the listed change (whether related to activities or circumstances) would produce enhanced affect balance at Time 2, but that only the activity change group would show maintained change at Time 3. Table 15.1 presents the 12 means relevant to this hypothesis.

As can be observed, those who committed to adopting a new activity, but who did not follow through, dropped substantially in their affect balance at Time 2, and had partially recovered at Time 3. Those who committed to changing a circumstance, but who did not follow through, dropped a little, then slightly more. In contrast, those who followed through in changing a circumstance in their lives evidenced slightly increased affect balance at Time 2, but then a large drop at Time 3; not only did their slight boost not last, but they ended up worse than they started off. Finally, and most important, those who followed through on changing an activity experienced a modest boost in affect balance at Time 2, and a further slight boost at Time 3. Thus, no adaptation was evident for this group.

It is instructive to consider the pattern of effects in an analysis of the full $2 \times 2 \times 3$ design. A mixed-model MANOVA revealed no significant main effects. That is, the activity and circumstance groups did not differ across the three time points, those who made the change did not differ across the three time points and there was no main effect of time point (1, 2 or 3)

upon the means. However, this is not surprising, especially given that the groups were all equivalent on affect at Time 1. What is more instructive is to examine the interactions between the two conditions and the repeated measures factor, as these interactions bear directly on the SHM's predictions. Indeed, there was a significant change made/not made by time of assessment interaction, $F(2,108) = 4.48, p < 0.02$. Although the change/no change groups were equal on affect balance at Time 1 ($M_s = 1.44$ versus 1.51), participants who made the change were higher in affect balance at Time 2 than participants who did not make the change ($M_s = 1.55$ versus 0.98), a pattern that tended to persist at Time 3 ($M_s = 1.49$ versus 1.24). Thus, it appears to be important to follow through on intended changes, if one wishes to obtain an affective benefit. No other two-way interactions reached significance.

But what about the activity versus circumstance contrast? If the difference between these two groups moderates the above pattern, then a three-way interaction would be expected. The 2 (group: activity versus circumstance) \times 2 (change: made versus not made) \times 3 (time of assessment: T1, T2 or T3) interaction approached but did not reach statistical significance, $F(2,108) = 2.01, p = 0.139$. Thus, this most specific prediction of the SHM was not supported, although it is worth noting that three-way interactions are difficult to obtain and the means were in the expected direction. However, the SHM's more general prediction that SWB can be changed by taking action in one's life was indeed supported, if we acknowledge that it takes action to change a circumstance, just as it does to initiate a new goal or activity.

15.3.3 Focusing on the 'Change Made' Group

Next we focused on the 75 participants who reported actually making their change. Recall that we asked such participants questions about the change they made, attempting to find further support for the postulates of the SHM. Specifically, we asked participants whether the change added variety to their life, and whether they remained aware of the change over time; these variables were theorized to help counteract the mitigating effects of hedonic adaptation. To test the effects of these factors, we regressed Time 3 affect balance on Time 1 affect balance, so that we could evaluate what predicts longer term change from the beginning to the end of the study. At step 2 of this regression we entered the two predictors. Finally, at step 3, we entered a product term representing the interaction of these two (centered) predictor variables, for exploratory purposes.

In step 1 of the regression Time 1 affect balance was a significant

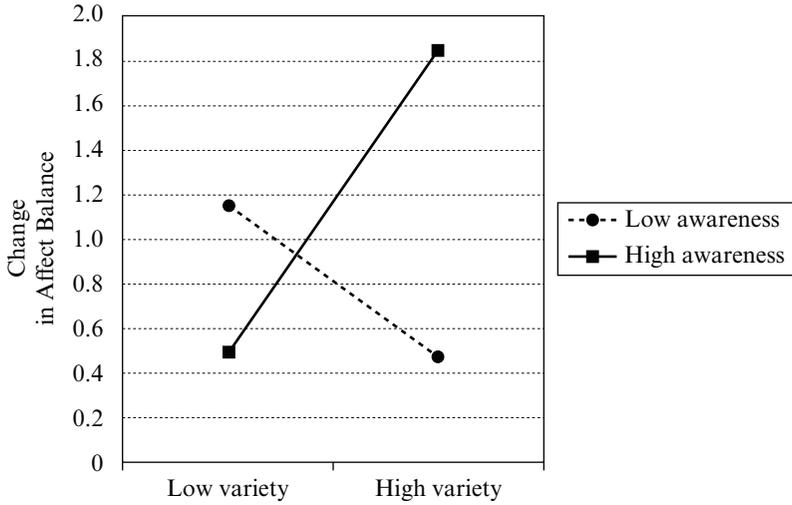


Figure 15.1 Change in effect balance by awareness level

predictor of Time 3 affect balance (that is, the test-retest coefficient was significant; $\beta = 0.52$, $p < 0.001$; we interpret this as the effect of the individual's set-point). More important, at step 2 both the 'variety' and the 'awareness' variables were significant predictors of enhanced affect balance (β s = 0.22 and 0.19, respectively, both p s < 0.05). Thus, regardless of the type of change, reporting that the change adds variety to one's life, and also that one remains aware of the change, are associated with greater shifts in SWB. Finally, at step 3 the interaction product term was also significant ($\beta = 0.24$, $p < 0.02$). As the positive coefficient illustrates, Time 3 affect balance was especially high (controlling for Time 1 affect balance) given the combination of both variety and awareness.

What about the activity versus circumstances change factor? In a second regression we included this dummy variable in the equation, and also examined the interaction of change-type with the above results. Change (activities versus circumstances) did not interact with either predictor taken singly. However, there was a significant three-way interaction, moderating the significant two-way interaction reported above ($\beta = -0.89$, $p < 0.03$). When we split the data by change-type, we discovered that the variety X awareness interaction was significant in the activity-change condition ($\beta = 0.44$, $p < 0.01$) and non-significant in the circumstance-change condition ($\beta = 0.06$, $p > 0.50$). The two-way interaction is plotted in Figure 15.1 for those who made the change within the activity-change condition ($n = 39$).

15.4 DISCUSSION

In this section we summarize the results of the study, and then consider some implications. Participants assigned to adopt a new life activity did not differ on Time 1 affect balance from participants assigned to change a circumstance in their lives; nor did they differ in their affective forecasts regarding the likely effects of this change upon their mood. However, they reported more self-concordant (especially intrinsic) motivation to make the change, and believed that making the change would take more effort on their part. Furthermore, participants who followed through and actually made their change experienced a boost in affect balance compared to participants who did not, an effect that tended to be stronger in the activity condition than in the circumstance condition. Finally, among only the participants who made the change, the effects on affect balance were even stronger when they reported that they remained aware of the change, and when the change added variety to their lives. The strongest effect of all was observed in the activity change made condition, for participants who reported that the change added variety to their lives and who reported remaining aware of the change. In contrast, this two-way interaction was non-significant in the circumstance change made condition.

What do these data mean? Taken together, they suggest that it is possible to increase one's happiness level, at least for a span of weeks. Participants in both the circumstance-change and activity-change conditions who actually made their change reported higher SWB at T2 and T3 compared to those who did not make the change, even though change makers and non-makers did not differ in initial SWB. This latter finding is noteworthy, as it can be argued that people who are inclined to follow through on commitments to make life changes may initially differ on important variables (such as happiness, conscientiousness or agreeableness) from those that do not tend to follow through, and that such a confound could have accounted for the differences that we found between change makers and non-makers. In other words, although the current study rectified one limitation of our earlier studies by randomly assigning participants to make an activity change or a circumstance change, we could not randomly assign participants to actually make the change or not, and, thus, in this factor, self-selection effects may persist. However, the fact that change makers and non-makers began our study with identical levels of SWB reassures us that change makers are not simply dispositionally happier.

Intriguingly, our data showed that the change makers did not experience a large boost from their initial baselines; instead, they displayed a relatively small boost, while the non-makers experienced a somewhat larger decline. Does this suggest that committing to make a change makes

one vulnerable – paying off only modestly if successful, and threatening to usurp one's equanimity if one is not? If so, then the pattern would be consistent with the argument that 'bad' may often be stronger than 'good' (Baumeister et al., 2001), and might also indicate that people should focus on avoiding negative life events, rather than seeking positive life events.

However, considering participants' changes from their own baselines, rather than their changes relative to participants in other conditions, may be misleading. Studies of this nature from our laboratories have typically found a sample-wide decrease in SWB over the (fall) semester, as winter sets in and the work and stress pile up. And, indeed, there was a significant sample-wide decline in affect balance across the entire sample, if the 'activity change made' group is excluded (pre/post $M_s = 1.48$ versus 1.27 , $t(73) = 2.20$, $p < 0.05$). In contrast, the 'activity change made' group experienced a trend to increase in affect balance (pre/post $M_s = 1.42$ versus 1.68 , $t(38) = 1.30$, $p = 0.10$, one-tailed). If the entire sample were given a boost of, say 0.30 points at Time 3 to compensate for a general temporal decline effect, then the activity change makers would appear to increase much more and then rise a little higher, whereas the non-makers would decline a bit and then return to their initial baselines (the exact pattern predicted by the SHM). Unfortunately, we did not track this sample long enough to take into account and remove any such yearly or semester-long cycle effects that may have influenced the raw means. Therefore, we believe what is most instructive to examine is the performance of the two groups relative to one another. In this comparison the advantage of making positive life changes is clear.

Nevertheless, it is important to emphasize that the longer term sustainability of these positive changes cannot be demonstrated within a 12-week study. For example, it is unlikely that the effects of the change factor (made versus not made) would persist a year later. However, this underscores an important assertion of the SHM, namely, that happiness cannot be taken for granted, but rather, must continually be pursued anew. In other words, only by ongoing effortful and successful practice of varied new activities can people hope to remain in the upper half of their 'set range'. Failing this, they will almost inevitably revert back to their genetically determined baselines.

Our results showed the largest boosts in SWB for individuals who reported that their particular life change was characterized by variety and that they continued to think about it. Not surprisingly, both of these factors have been implicated in the literature as helping to impede hedonic adaptation. Variety is important because it is innately stimulating and rewarding (Berlyne, 1970) and because adaptation, by definition, occurs in response to constant, not dynamic, stimuli. Attention is important because the moment that a thing, circumstance or activity fails to captivate attention

– the moment that it fades into the psychological background – one can be said to have adapted to it (cf. Kahneman and Thaler, in press). It appears that one needs to be quite diligent to prevent this from happening.

Finally, it is worth considering these results from an economic policy perspective. Our data suggest that supporting peoples' economic lives is unlikely to bear lasting fruit, as income represents a relatively static 'circumstance' to which individuals quickly adapt (Easterlin, 2005; Layard, 2005). This may be especially true when people use their rising income to purchase mere luxury goods and status possessions, which may be especially subject to adaptation (Kasser, 2002). However, rising income may potentially lead to gains in SWB when people use this income to expand their range of activities and experiences (Scitovsky, 1976; Van Boven, 2005). For example, spending one's money on adventure travel, or on taking time off from one's day job to pursue a dream (like writing screenplays), or on the purchase of items that afford new hobbies (such as a high-end mountain bike or a ski condo that allows one to pursue skiing) may help one to become sustainably happier – but again, only if one uses the new bike or condo, in ways that create varied, dynamic positive experiences and that allow one to continue to attend to the life change. In this light, it may be more important to support workers' 'time affluence' than their 'monetary affluence' (Kasser and Sheldon, 2009), so that they have the free time necessary to enjoy the fruits of their labors.

Obviously, this is the employee perspective, but it is also important to consider the managerial perspective. Should employers and economists care that the key to happiness enhancement is optimizing experience, not optimizing economic commodities such as income and consumption? We suggest that they should care, because happy people tend to be more productive, creative, flexible, persistent and group-centered than their less happy peers (Lyubomirsky et al., 2005a). Because creating more satisfied workers may help businesses to enhance the bottom line, this goal may be a win-win proposition for employees and managers alike. Our research suggests that meeting the goal may be as simple as providing workers with opportunities to find, engage in, and succeed at satisfying and varied new activities and tasks.

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