

THE ROLE OF INTENTIONS IN THE PURSUIT OF HAPPINESS

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Chapter 1

Introduction

“What everyone wants from life is continuous and genuine happiness,” according to the philosopher Spinoza. This idea that happiness is the ultimate goal in life has been echoed by other important figures throughout history, and the right to pursuit of happiness even figures prominently in the American Declaration of Independence. The importance given to happiness appears to be a widely shared goal that transcends cultural differences, and a survey of individuals from various nations around the globe reveal that a high average of importance assigned to happiness (8.0, based on a 9-point scale; Diener & Biswas-Diener, 2008). Further attesting to the value placed on happiness is the ubiquity of self-help guides and suggestions on improving the quality of one’s life. For example, Amazon.com boasts thousands of happiness books. On the web, one can find a variety of sites devoted to motivational and happiness quotes and wisdom, and more recently, WikiHow.com, an off-shoot of Wikipedia.com, featured an article on “How to Become Happier” (<http://www.wikihow.com/Be-Happy>, n.d.). Given the amount of information and discussion devoted to finding happiness, the assumption that people generally seek happiness is hardly controversial.

While happiness is important in its own right and is pursued as an end-state, research suggests that feeling positive may itself contribute to further positive outcomes (Cohn & Fredrickson, 2006; Fredrickson, 2001; Fredrickson & Joiner, 2002; Lyubomirsky, King, & Diener, 2005), such as relationship satisfaction, a greater tendency

to engage in prosocial behaviors, higher income, and better physical health. From an evolutionary perspective, positive emotions facilitate our attention towards broadening our cognitive repertoire and personal resources by building positive relationships and developing important skills (Cohn & Fredrickson, 2006; Nesse, 1990; 2004). Thus, although pursuing personal happiness is sometimes thought of as a hedonistic and self-centered venture, current research shows that there may be important interpersonal and intrapersonal consequences of being happy beyond simply feeling good.

Because happiness is important for a variety of outcomes, it stands to reason that methods to enhance happiness among individuals should be scientifically investigated. Indeed, an effort to understand factors related to happiness has been growing, particularly in the field of positive psychology (see Diener & Biswas-Diener, 2008; Fredrickson, 2001; Larson, 2000; Lyubomirsky, Sheldon, & Schkade, 2005; Seligman, Steen, Park, & Peterson, 2005; Taylor, Kemeny, Reed, Bower, & Gruenewald, 2000). One area of this research investigates the possibility that individuals can shape their own level of happiness through conscious engagement in certain types of behaviors (Emmons & McCullough, 2003; Seligman et al., 2005; Sheldon & Lyubomirsky, 2006). For example, Lyubomirsky et al. (2005) propose that as much as 40% of people's happiness can be influenced by engaging in their chosen activities. Due to this premise that individuals can actively participate in increasing their own well-being, research has examined many "happiness activities" or interventions. In Lyubomirsky's (2007) book, *The How of Happiness* alone, there are over 14 such scientifically tested interventions.

Should Individuals Intentionally Strive to Become Happier?

Implicit in the research on strategies that improve happiness, as well as in the lucrative market of self-help tools, is the idea that individuals *should* consciously make an effort to become happier. Also, given the important outcomes of being happy, it logically follows that individuals should strive to become happier. However, paradoxically, some argue that intentionally pursuing happiness is an ineffective way to achieve happiness. In his *Autobiography*, for example, John Stuart Mill remarks that although happiness is an important end that people seek, it is only attained when individuals “have their minds fixed on some object other than their own happiness” (Mill, 1964, p. 112). More recently, Schooler, Ariely, and Lowenstein (2003) outlined several reasons why intentionally seeking happiness may be doomed to failure. First, individuals are limited in their ability to accurately access their current emotional states. Previous research in psychology demonstrates that individuals’ judgments about their mood and life satisfaction are susceptible to external cues (Schwarz & Strack, 1999), such as the weather (Schwarz & Clore, 1983) and romantic relationship satisfaction (Strack, Martin, & Schwarz, 1988). Similarly, research on misattribution theory also suggests that individuals may inaccurately attribute the source of their arousal or emotions (Schachter & Singer, 1962). Individuals’ limitations in understanding the source of their hedonic states in the first place makes the endeavor to change their hedonic states difficult. They may never know whether they actually increase in happiness and whether the change can be attributed to engagement in a certain activity or intervention.

Schooler et al. (2003) also propose that the act of introspecting about one’s hedonic state may reduce the sensitivity to how one is feeling. Indeed, research suggests that focusing on oneself is positively related to negative affect (Mor & Winquist, 2002),

and self-reflection about one's affective state is thought to be a facet of rumination (Treyner, Gonzalez, & Nolen-Hoeksema, 2002), which is itself a predictor of depression (Just & Alloy, 1997; Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008). Thus, self-reflective thinking about one's level of happiness, which probably occurs as individuals intentionally attempt to become happier, may in the end lead people to negatively evaluate their hedonic experience.

Lastly, a predominant focus on personal happiness may detract individuals' engagement with whatever activities they are carrying out. In addition to the flawed ways that people think about their happiness, Schooler et al. (2003) suggest that individuals may become extrinsically motivated towards the specific acts from which they expect to benefit. According to self-determination theory (Deci & Ryan, 1985; Ryan & Deci, 2000; Sheldon, 2002), extrinsic motivation (i.e., for instrumental outcomes that are separate from the activity, such as tangible rewards or praise) is less optimal than intrinsic motivation (i.e., for the joy and satisfaction of the activity itself) for continued engagement with and satisfaction derived from the behavior. When individuals engage in activities with the goal to become happier, by definition, they are extrinsically motivated. This may commonly occur in situations in which individuals engage in activities, such as volunteering at a local charity or a leisure activity, *in order to* increase their happiness. According to Schooler et al. (2003), in such situations, individuals will overlook and miss out on the subtle positive experiences and qualities of the activities themselves, because their attention on their own happiness has displaced their focus on the activities. Research presented by Schooler et al. (2003) show that when individuals are given a goal to increase happiness while listening to music, they report lower subsequent happiness

compared to individuals who are simply told to listen to the music. Although Schooler et al. (2003) did not directly measure the type of motivation participants had towards the activity, they attributed the lower happiness to the participants' extrinsic motivation overriding their natural enjoyment of the music.

In sum, according to Schooler et al. (2003), attempting to change one's level of happiness may not be an effective way to experience actual change, for at least three reasons. First, individuals' judgments about their level of happiness are sometimes shaped by situational factors. Second, reflecting about happiness may itself dampen the experience of happiness. Third, the goal to change happiness may prevent individuals from fully engaging in the particular set of activities thought to produce positive experiences. Although these reasons provide a compelling argument against pursuing happiness, there exist reasons to believe that having behavioral intentions is important for goal success. That is, it is also plausible that individuals' intention to improve their happiness facilitate their enactment of behaviors associated with reaching the goal of greater happiness. Below is a brief review of research of the alternative view of the role of intentions to become happier.

Why Intentions May Be Beneficial for the Pursuit of Happiness

Research on attitudes and behavior, as well as research on goals and motivation, suggests that intentions are essential for any deliberate or purposeful action. According to the theory of planned behavior (Ajzen, 1985), for instance, intentions are the most proximate predictors of the behavioral outcome. Indeed, meta-analyses on correlational and experimental studies examining the relationship between behavioral intentions and actual behavior outcomes have concluded that intentions do predict later behavior and

outcomes (Armitage & Connor, 2001; Milne, Sheeran, & Orbell, 2000; Webb & Sheeran, 2006). Whether or not individuals finish their homework, maintain an exercise regime, or use sunscreen depends mainly on their intentions to do so. Pursuing happiness also involves planned action, and as such, the findings regarding intentions on goal pursuit should similarly apply to the goal of happiness.

Intentions are also considered a key determinant of desired outcome behaviors within research on goal processes. For instance, Locke and Latham's (1990; 2002) goal setting theory and Gollwitzer and colleagues' (Gollwitzer, 1993; 1999; Gollwitzer & Sheeran, 2006) research on implementation intentions assume that intentions direct individuals' exertion of effort towards behavioral outcomes. In both lines of research, forming intentions and goals are necessary to direct individuals' attention and effort towards the target outcome. According to Locke and Latham (2002, p. 706), "goals have an energizing function." In addition to providing motivational resources, Gollwitzer (1999) proposes that implementations intentions work by eliciting situational cues that remind individuals to engage in the target behavior at a nonconscious level. Similarly, theories on self-regulation, such as control theory (Carver & Scheier, 1998) and the model of action phases (Gollwitzer, 1990; Heckhausen & Gollwitzer, 1987), assume that the act of setting explicit goals determines individuals' engagement with actions to pursue desired outcomes. Control theory proposes that individuals continuously compare their present state to a target standard (Carver & Scheier, 1998). When individuals perceive that their current state is not meeting this standard, they behave to reduce the discrepancy. According to the action phases model (Gollwitzer, 1990; Heckhausen & Gollwitzer, 1987), intentions are formed in the predecisional phase, in which individuals

think about various intentions and make a decision about the specific intention to be carried out as a goal.

Currently, some emerging evidence suggests that having the intentions, or the will, to become happier predicts greater gains from engaging in happiness interventions (Lyubomirsky, Dickerhoof, Boehm, & Sheldon, under review). In this study, participants self-selected into a psychology studies advertised as either investigating happiness activities or cognitive processes. Although the initial title and description of the studies were different, both studies instructed the participants to engage in the same set activities, which included a theoretically-based happiness intervention and a control activity that lasted for several weeks. Thus, participants' decision to sign up for the happiness study reflected their interest or "will" to become happier, and differences in psychological outcomes may be attributed to participants' will to become happier. The results of this study showed an interaction such that participants who self-selected into the study purported to examine happiness interventions and engaged in the theoretically-based activity reported the greatest increase in happiness over the duration of the study. Thus, the authors concluded that it takes both a "will" (evidenced by self-selection) and the "right way" (or theoretically-based method) for individuals to increase in happiness. While this study provides initial evidence that intentions enhance the happiness pursuit, it did not directly manipulate participants' intentions towards the happiness activity *per se* making causal interpretations about intentions difficult.

The Present Research

Is the pursuit of happiness indeed self-defeating, as Schooler et al. (2003) suggests? Currently, the scarcity of research makes it difficult to assess the validity of the

claim that intentionally seeking happiness is likely to be unsuccessful. On the other hand, a great deal of research on behavioral intentions suggests that intentions, in any type of goal, are important in fueling the necessary effort and attention to attaining the desired outcome. Thus, the main purpose of the current research is to investigate the role of intentions to become happier in the actual pursuit of happiness¹. Based on past research on goal and behavior processes, it was predicted that having intentions to become happier will be beneficial, rather than harmful, on participants' well-being. Two studies examined this hypothesis. Study 1 was an extension of work by Schooler et al. (2003) and tests the role of intentions in short-term changes in affect. This study addresses a key limitation of the research presented by Schooler et al. (2003). Study 2 was a longitudinal study examining intentions to become happier in a more realistic setting, that is, in the context of sustained engagement in a happiness intervention.

A concern in the present research was the possibility that placebo effects might explain the effectiveness of the interventions. That is, the interventions would work to the extent that participants have positive expectations about their effectiveness. To examine the effectiveness of the interventions regardless of participants' level of positive expectations about the intervention, the two studies measured participants' level of dispositional optimism using Scheier and Carver's (1993) Life Orientations Test. According to a study of placebo effect, individuals who are dispositionally optimistic are more likely to report positive effects of placebo treatments (Geers, Kosbab, Helfer, Weiland, & Wellman, 2007; Geers, Weiland, Kosbab, Landry, & Helfer, 2005).

¹ The dissertation proposal included testing an additional experimental factor, expectations about the effects of the activity, in the research design. In the current manuscript, this factor has been dropped from consideration to avoid unnecessary complication. In both studies, expectations did not predict mood (Study 1) or well-being (Study 2) and did not interact with activity type or level of intentions (all p 's > .14).

Individuals who are more dispositionally optimistic have been shown to be more receptive to activities that are alleged to be beneficial. Thus, the authors of this study recommend that the possibility of individual differences be taken into account when testing interventions. In the analyses conducted for both studies, dispositional optimism was therefore included as a covariate control variable.

Chapter 2

Study 1

A study by Schooler et al. (2003) showed that an attempt to intentionally improve their happiness was ineffective. In this study, participants were asked to listen to Stravinsky's *Rite of Spring*, and were either asked to try to feel happy while they listened to the music or were given no specific instructions. The results of this study showed that individuals who assumedly attempted to manipulate their mood did not in fact report greater mood compared to individuals who were not given instructions to do so. A main limitation of this design is the use of a single selection of music that is described as being "discordant" and "hedonically ambiguous" (Schooler et al., 2003). Based on this study, it is difficult to conclude that conscious effort to become happier is likely to be unsuccessful, because an alternative type of music, specifically one that is hedonically cheerful or positive, was not tested. Theoretical models of happiness and well-being, such as self-determination theory (Ryan & Deci, 2000), the sustainable model of happiness (Lyubomirsky et al., 2005), and character strengths (Seligman et al., 2005), imply that it is important to consider whether the type of activity or method is theoretically or empirically supported. Furthermore, according to Lyubomirsky et al. (under review), it takes both a "will and proper way" to improve happiness. That is, raising happiness requires the combination of both a willingness to pursue happiness *and* the proper method of pursuit. Thus, the ineffectiveness of trying to feel happier while listening to music (Schooler et al., 2003) may be attributed to the lack of a "proper way."

Study 1 extended the study presented by Schooler et al. (2003) by examining the role of intentions to become happier with music that is thought to be hedonically pleasant. In keeping with this study, Study 1 used Stravinsky's *Rite of Spring* for the comparison group. Copland's *Rodeo* was used to contrast Stravinsky, based on a pilot study demonstrating that listening to *Rodeo* was rated higher in positive affect compared to *Rite of Spring* (Ferguson, 2009). An interaction effect was predicted, such that the combination of the happy music (Copland's *Rodeo*) and intentions to become happier, would yield greater positive mood, in contrast to the other conditions in which participants listened to the discordant music (Stravinsky's *Rite of Spring*) or were not given instructions to try to become happier. In other words, having intentions to feel happier were expected to facilitate greater positive mood but only when coupled with the "right" strategy, or the presence of pleasant music.

Method

Participants

Participants ($n = 214$, 68.7% female) were recruited from an introductory psychology course and were given course credit for participating in the study. The mean age among these participants was 18.45 ($SD = 1.14$). The majority of the participants were Caucasian (81.3%), followed by fewer participants who self-identified as being black (9.8%), Asian (5.1%), or Hispanic (3.3%).

Procedure and Materials

Participants were led through lab visits during which they were randomly assigned to listen to either Stravinsky's *Rite of Spring* or Copland's *Rodeo* for about 10 minutes. Participants were also randomly assigned to one of three conditions that varied

in instructions to try to feel happier or not while listening to the music. While the first two conditions (see below) gave explicit instructions about whether participants should try to feel happier (“intentions to increase happiness” condition) or to avoid trying to change their mood (“no intentions condition), the third condition did not give participants any additional instructions about listening to music (neutral condition). The third condition was intended as a variation of the “no intentions” condition and was also predicted to result in lower ratings of positive mood compared to the “intentions to increase happiness” condition. (Similar instruction prompts were used for Study 2.)

Intentions to increase happiness

In order for us to adequately test the effects of classical music, it is important for you to consciously try to improve your mood while listening to this music. So, in the current study, we’d like you to listen closely to the music and really focus on improving your mood. In previous studies of classical music, psychologists have found that people’s positive mood increases only when they exert conscious effort to try to increase their mood. So, again, while you listen to the music, we would like you to really focus on trying to feel happier.

No intentions

In order for us to adequately test the effectiveness of classical music, it is important for you to relax and passively observe your *natural* reactions. So, in the current study, we’d like you to listen to classical music and just relax and be yourself as you listen to the music. In order for us to test the effects of classical music in a fair way, it is important that you do not try to consciously improve your mood. In previous studies of classical music, psychologists have found that

people's positive mood increases only when they don't exert conscious effort to try to increase their mood. In fact, research shows that attempting to change one's mood usually backfires. So, again, while you listen to the music, we would like you to just listen naturally.

After listening to the music, participants reported their current positive mood using two measures. In the first measure, participants were asked to rate their agreement (1 = Not at all to 15 = Extremely) with positive mood descriptors, including "happy," "joyful," "enjoyment/fun," "pleased," "content," and "satisfied" ($\alpha = .94$) selected from Emmons' (1991) short list of affect terms. An average of the ratings was calculated for a score of positive mood. In the second measure, participants were asked to report how positive they feel using a continuous line measure. They were given a line that extended from "very negative" on one side to "very positive" to the opposite side and asked to mark an "X" to indicate their positive mood relative to their negative mood. Using a ruler, the distance between the "very negative" end of the line to the "X" was measured to represent the relative positivity of mood. The two scores (standardized) of positive mood were averaged together, because they were highly correlated ($r = .79, p < .001$). This positive mood composite was examined in the analyses described below.

Results and Discussion

Before the primary analysis, the effectiveness of the experimental manipulation was assessed. Prior to listening to their assigned music, participants were asked, "To what extent will you *intend* or *try* to feel happier while listening to the music?" on a scale from 1 (Not at all) to 5 (Very much). Participants in the high intentions (to increase happiness) condition ($M = 4.26, SD = .79$) reported higher intentions to feel happier compared to the

neutral condition ($M = 3.29$, $SD = 1.03$; $F(1, 121) = 30.45$, $p < .001$) and the no intentions condition ($M = 1.50$, $SD = .90$; $F(1, 168) = 450.97$, $p < .001$). Participants in the neutral condition also reported greater intentions to feel happier compared to the no intentions condition ($F(1, 124) = 102.73$, $p < .001$). These results suggest that the experimental manipulation of intentions towards the music activity affected participants as expected.

A comparison of means of the positive mood composite revealed that participants in the “happy” music (Copland) conditions reported higher positive mood compared to participants in the “discordant” music (Stravinsky) conditions. Participants in the high intentions condition reported the highest positive mood ($M = .52$, $SD = .86$), followed by the participants in the neutral condition ($M = .08$, $SD = .96$), and the no intentions condition ($M = -.02$, $SD = .91$). Among participants in the “discordant” (Stravinsky) music conditions, those in the high intentions condition reported the highest positive affect ($M = -.13$, $SD = .92$), followed by the no intentions condition ($M = -.18$, $SD = .83$) and the neutral condition ($M = -.50$, $SD = 1.01$). To determine whether these means were significantly different and to assess the hypothesis that intentions to become happier will interact with type of music (the “will and way” interaction), an ANCOVA was conducted. This analysis included type of music (Stravinsky, or “discordant” vs. Copland, or “happy”) and intentions (no intentions vs. neutral intentions vs. high intentions) to feel happier as categorical predictors, as well as dispositional optimism as a covariate control variable. A significant main effect of music ($F(1, 207) = 8.72$, $p = .004$) and a marginally significant effect of intentions ($F(1, 207) = 2.37$, $p = .10$) emerged, as well as a marginally significant interaction effect of level of intentions and type of music ($F(2, 207) = 2.58$, $p = .08$, see Figure 1). Follow-up tests probing the interaction effect

suggested that the difference in positive mood due to intentions among participants who listened to the “happy” music was significant ($F(1, 107) = 4.22, p = .02$) but not among participants who listened to the “discordant” music ($F(1, 101) = 1.16, p = .32$). Simple contrasts between pairs of levels of intentions under the “happy” music condition showed that the participants in the high intentions condition reported significantly higher positive mood compared to the participants in the no intentions condition ($p = .01$). The participants in the high intentions condition also reported marginally higher positive mood compared to participants in the neutral condition ($p = .08$). Lastly, participants in the no intentions and the neutral conditions did not statistically differ from one another ($p = .62$).

These results suggest that intentions to try to feel happy may be effective in the context of a “proper way” in improving happiness. Although the interaction term in the analysis was only marginally significant, contrast analyses showed that those in the high intentions condition reported significantly higher positive mood compared to those in the no intentions condition and marginally higher positive mood compared to the neutral condition, but this difference was observed only under the “happy” music condition. Level of intentions did not predict positive mood in the “discordant” music condition. Thus while, participants who were asked to try to feel happy as they listened to music reported greater positive mood only when they were presented with music thought to be unambiguously pleasant, the same pattern was not observed when participants listened to music that is not considered to be hedonically positive. The interaction between type of music and intentions and the pattern of means provide some support for the idea that one’s happiness takes both a “will and a way” (Lyubomirsky et al., under review). That

is, at least in the short-term context, individuals who try to become happier may be able to do so to the extent that a) an explicit effort is expended, and that b) an appropriate strategy is used. The higher positive mood of the high intentions condition compared to the neutral and no intentions conditions appear somewhat consistent with the ordering of the reported means of the manipulation check item by condition. That is, the participants in the high intentions condition reported the highest intentions to feel happy, followed by the neutral group and lastly, the no intentions group, as would be expected by the hypothesis. The positive correlation between the participants' ratings to try to feel happy and subsequent positive mood ($r(214) = .18, p = .01$) also suggests that greater positive mood may result from intentionally trying to feel happier.

Although this study provided some support for the main prediction of this research that having intentions to become happier is important to the pursuit of happiness, it tested this prediction in a relatively rigid setting (i.e., an experiment lab) over a very short period of time. These two aspects of the study limits its generalizability to real-life situations in which individuals attempt to raise their chronic level of happiness over a much longer period of time by engaging in some activity that requires their sustained effort and attention. Study 1 suggested that intentions to feel happy may be effective in enhancing positive mood during a very short time-frame; however, it is unclear whether intentions would also be beneficial to *changes* in happiness over a longer period time. Thus, Study 2 examined the role of explicit intentions to become happier as individuals engaged in sustained activities over the course of 4 weeks. This study examined individuals' happiness in a more realistic context by allowing individuals to incorporate their happiness efforts to their everyday lives.

Chapter 3

Study 2

The design of Study 2 is similar to that of Study 1 in that the role of intentions and type of activity (akin to type of music) were experimentally manipulated. Again, participants were asked to intentionally attempt to increase their level of happiness during their engagement with the activities or to react naturally to the activities without attempting to manipulate their happiness. Due to the longitudinal nature of the study, within-subject changes in happiness were assessed, rather than simply the level of happiness at the end of the intervention period. Study 2 tested two activities, the “pay it forward” activity (experimental group) and the “environmentally conscious behaviors” activity (comparison group). Similar to Study 1, it was hypothesized that level of intentions (high vs. low) would interact with type of strategy (experimental vs. comparison) in predicting changes in well-being. Specifically, participants in the condition in which they are instructed to attempt increase their level of happiness as they engage in the “pay it forward” activity were predicted to report the highest positive change in well-being compared to the other three groups.

“Pay it Forward” and “Environmentally Conscious Behaviors”

Participants in the experimental condition were asked to engage in the “pay it forward” activity, which consisted of two separate parts, over the next 4 weeks. First, the activity asked participants to acknowledge at least three encounters/experiences per week in which another person has performed an act of kindness towards the participant. This

component is similar to Emmons and McCullough's (2003) prescribed activity of counting blessings and being grateful. Following the gratitude component, participants were asked to perform at least three acts of kindness of their own to propagate the act of "paying it forward." Past research has found positive associations between prosocial acts, such as volunteering for an organization, and well-being (Musick & Wilson, 2003; Piliavin, 2005; Post, 2005; Schwartz & Sendor, 1999), and some experimental research suggests that acts of kindness may lead to higher happiness (Dunn, Aknin, & Norton, 2008; Lyubomirsky et al., 2005).

In contrast to the "pay it forward" activity, the comparison group was instructed to keep up with environmentally conscious behaviors, such as recycling or reusing (i.e., paper, plastic bags, food containers, etc.) for the next three weeks. Indeed, as of yet, no research has verified the effects of recycling on well-being. Also, correlational data shows that there are no significant relationships between well-being and willingness to engage in recycling/reusing or attitudes about reducing consumption (Ferguson, 2009). Pro-environmental behaviors as an activity was also chosen because current positive attitudes about it may convince participants of its feasibility as a happiness strategy. Furthermore, compared to control activities used in previous research (see Lyubomirsky et al., under review; Seligman et al., 2005), which involve contemplation and writing about oneself, engaging in environmentally conscious behaviors requires participants to be more behaviorally active. This aspect makes performing environmentally conscious behaviors a stronger and more appropriate comparison to performing acts of kindness, which also involves some behavioral input from participants.

Exploratory Analyses of Potential Mediators

In Study 2, two mediators that are relevant to pursuing happiness as a goal and changes in well-being were examined, including participants' autonomous motivation their assigned activity and basic need satisfaction derived from the activities.

Autonomous motivation. One of the reasons why having intentions might be harmful to the pursuit of happiness, according to Schooler et al. (2003), is that intentions would compromise individuals' quality of motivation when engaging in the happiness-producing activities. Rather than focusing on the activities themselves and the pleasures associated with them, individuals may become preoccupied by assessing changes in one's happiness. Thus, the current study tested the possibility that having intentions to increase in happiness would impact individuals' autonomous motivation towards the activities. Participants' autonomous motivation at the pre-intervention stage was assessed as a mediator between levels of intention and changes in well-being. Given the expectation that intentions to become happier would promote gains in happiness, participants in the high intentions conditions were not expected to report higher autonomous motivation compared to participants in the low intentions conditions. The alternative outcome, based on Schooler et al.'s (2003) reasoning, is that participants in the high intentions conditions would report lower autonomous motivation towards their activities.

Need satisfaction. According to self-determination theory (SDT, Ryan & Deci, 2000), the types of experiences that contribute to our well-being can be said to reflect one or more of the three basic needs: autonomy, competence, and relatedness. Autonomy refers to the experience of volition and choice, competence refers to feeling effective and proficient in one's behaviors, and relatedness refers to feeling closely connected to others (Ryan & Deci, 2000). Research has shown support for the presence of these needs in

people's satisfying experiences (Sheldon, Elliot, Kim, & Kasser, 2001; Sheldon, Ryan, & Reis, 1996). Furthermore, the satisfaction of these needs has been shown to mediate the effects of happiness interventions on well-being changes (Lyubomirsky et al., under review).

In the current study, need satisfaction was tested as a mediator in two ways. First, participants assigned to the “pay it forward” activity were expected to report greater need satisfaction compared to participants in the pro-environmental behaviors condition. The previously hypothesized difference in well-being change based on type of activity was predicted to be partially mediated by a greater increase in need satisfaction among the “pay it forward” participants compared to the pro-environmental behaviors participants. Although the need for relatedness appears to be most relevant to performing kind acts, no specific hypotheses were made regarding individual needs, because prosocial engagement has been theorized to be relevant to all three need experiences (Clary & Snyder, 1991; Midlarsky, 1991). Second, consistent with the prediction that intentions to increase happiness would facilitate positive gains in happiness, participants in the high intentions conditions were thought to report greater need satisfaction compared to participants in the low intentions conditions, which then would mediate changes in well-being.

Method

Participants

Participants ($n = 180$, 66.9% female) were recruited from a social psychology course at the University of Missouri and were offered extra credit in exchange for their participation in the study. Study 2's participants were demographically similar to participants in Study 1. Their average age was 20.11 ($SD = 1.46$), and most participants

self-identified as being Caucasian (80.1%), and fewer identified themselves as black (8.9%), Asian (5.0%), Hispanic (2.8%) or unspecified (3.3%).

Procedure

Participants first attended an orientation session during which their baseline well-being, attitudes towards their assigned activity, and their current need satisfaction were assessed using self-report surveys. Similarly to Study 1, participants were randomly assigned to one of 6 conditions that varied on activity type (pay it forward vs. pro-environmental behaviors) and intentions (high intentions to become happier, no intentions, and neutral condition). To manipulate participants' intentions to become happier (or not) through the activity, a procedure similar to Study 1 was used. Participants were given verbal prompts to encourage them to either try to become happier through the activity, to engage in the activity without intentions to change their level of happiness, or no specific instructions about intentions regarding happiness.

Afterwards, participants were given more detailed information and instructions about their assigned activity. In addition, they were asked to complete worksheets to ensure that they understood the instructions and to increase the likelihood that they would carry out in their assigned activities. On the worksheets, participants in the experimental, "pay it forward" condition were asked to think of three instances in which someone else (defined as a person or entity that the participants personally knows or not) has been kind to them and three possible acts of kindness they could perform for the current week (or following week, depending on the day of the lab visit). To increase participants' sense of ownership over their assigned activity, they were asked to generate their own kindness acts in the following weeks, rather than following a predetermined set of acts. In

addition, the participants were encouraged to be imaginative in their acts of kindness and to try a variety of acts rather than repeating the same ones weekly.

Participants in the comparison activity condition were asked to regularly keep up with 3 separate pro-environmental behaviors each week during the study. During the initial session, these participants each created a list of at least six kinds of environmentally conscious behaviors (i.e., recycling or reusing bags, refilling water bottles instead of buying bottled water, conserving paper, etc.) they could perform for the duration of the study. As in the experimental condition, the comparison condition participants were encouraged to be creative in how they approached their environmentally conscious behaviors and to add novelty to their activity by engaging in different environmental behaviors each week. To reduce the likelihood that participants neglected to keep up with their assigned activities, the worksheets asked all participants to think about when and where they might be performing these behaviors to increase their implementation intentions (see Gollwitzer, 1998). The participants also took the worksheets with them so that they can serve as a reminder about their assigned activities. Lastly, about four weeks after the orientation session, participants reported on internet surveys their current well-being, level of engagement with their activities, and their current need satisfaction.

Materials

Subjective well-being. Three measures assessed participants' level of well-being. First, participants' rated their affect using the 20-item Positive Affect Negative Affect Schedule (positive affect $\alpha = .85$ (time 1) to $.92$ (time 2), negative affect $\alpha = .82$ to $.91$; Watson, Clark, & Tellegen, 1988), and second, the 5-item Satisfaction with Life Scale (α

= .72 to .90; Diener, Emmons, Larsen, & Griffin, 1985) assessed their judgments about the quality of their lives (“In most ways, my life is close to my ideal”). These two scales have been commonly used in conjunction to measure subjective well-being (Diener & Lucas, 2000). Additionally, participants’ level of happiness was measured by the 4-item Subjective Happiness Scale ($\alpha = .81$ to $.83$; Lyubomirsky & Lepper, 1999), which includes statements such as “Compared to most of my peers right now, I consider myself: 1 = less happy to 5 = more happy.” Both the PANAS and the SWLS used a Likert rating scale that ranges from 1 (PANAS, very slightly to not at all; SWLS, strongly disagree) to 5 (PANAS, extremely; SWLS, strongly agree). High mean ratings on the PANAS and SWLS indicate high initial well-being, whereas low mean ratings indicate low well-being.

The indices of subjective well-being formed a composite of well-being. Participants’ scores on the indices correlated with one another (absolute values of the correlation coefficients ranging from .21 to .58 in the pre-intervention assessment and from .33 to .71 in the pos-intervention assessment). Also, principle components analyses using a varimax rotation to determine the factor structure of the well-being indices indicated that one factor should be retained at both time points. At the pre-intervention assessment, this factor accounted for 55.26%, and at the post-intervention assessment 66.14%, of the variance among the indices. Based on this information, the composite well-being scores were created from a sum of standardized scores life satisfaction, positive affect, and happiness, with a subtraction of negative affect from the sum.

Autonomous motivation. To assess participants’ autonomous motivation towards their assigned activities, the Perceived Locus of Causality scale (Ryan & Connell, 1989;

Sheldon & Elliot, 1999) was used ($\alpha = .42$ to $.58$). In the current study, this scale was composed of four items that correspond with types of motivation proposed by SDT (Ryan & Deci, 2000), including external (“You will complete this activity because somebody else wants you to, or because the situation seems to compel it”), introjected (“You will complete this activity because you would feel ashamed, guilty, or anxious if you didn’t”), identified (“You will complete this activity because you really believe that it’s an important to do so”), and intrinsic (“You will complete this activity because of the enjoyment or stimulation it provides you”). Participants rated the extent to which their motivation towards their assigned activity was reflected by each of these types of motivation using a scale that ranges from 1 (Strongly disagree) to 5 (Strongly agree). To calculate participants’ level of autonomous motivation, external and introjected ratings were subtracted from intrinsic and identified ratings (i.e., intrinsic + identified – introjected – external).

Basic need satisfaction. Participants rated their experience of autonomy, competence, and relatedness using a 18-item measure (Sheldon & Gunz, 2009), with six items addressing each need. Participants was asked about their past week when reflecting on their autonomy (e.g., “I was free to do things my own way,” $\alpha = .67$ to $.91$), competence (e.g., “I was successfully completing difficult tasks and projects,” $\alpha = .75$ to $.82$) and relatedness (e.g., “I felt a sense of contact with people who care for me, and whom I care for,” $\alpha = .67$ to $.77$) on a scale of 1 (Not at all) to 7 (Very much).

Results and Discussion

Preliminary Analyses

To ensure that the participants understood the instructions given to them regarding their intentions to become happier or to avoid intentionally changing their level of happiness, participants' responses to the question, "To what extent will you *try* or *intend* to increase your happiness while you are engaged in your activity?" was examined. Results showed that participants' intentions to become happier significantly differed by condition ($F(2, 172) = 14.58, p < .001$). Post hoc (Tukey's b) analyses showed that the participants in the no intentions condition ($M = 2.90, SD = 1.12$) reported significantly lower ratings compared to participants in the neutral ($M = 3.53, SD = .98$) and the high intentions conditions ($M = 3.82, SD = .95$). Participants in the high intentions condition did not differ significantly from participants in the neutral condition, however.

Pre-existing differences in participants' intended effort towards their assigned activities and their baseline levels of subjective well-being were also examined to ensure that the different instructions about intentions to become happier did not affect participants' willingness to engage in the activity itself. Two questions assessed participants' intended effort towards the activities: "How much effort will you exert to keep up with the activity?" (1 = Very little to 5 = A great deal) and "How hard will you try to accomplish this activity?" (1 = Not at all to 5 = Very hard). Ratings for these items were averaged to reflect an overall level of intended effort ($\alpha = .68$). Analyses showed that participants did not differ in their intended effort to keep up with their activity based on their assigned levels of intention ($F(1, 167) = 1.28, p = .28$; overall $M = 3.80, SD = .71$) or activity type ($F(1, 167) < .10, p = .93$). Thus, although participants differed in their intentions to become happier based on condition, their intended level of effort was

statistically similar across conditions. A comparison of participants' baseline well-being revealed that differences in well-being at baseline was not predicted by condition based on levels of intentions to become happier ($F(1, 172) = 1.03, p = .36$). Despite random assignment, however, participants in the pay it forward condition reported marginally higher SWB ($M = .42, SD = 2.73; F(1, 172) = 3.66, p = .06$) compared to the participants in the environmental behaviors group ($M = -.40, SD = 3.15$).

Primary Analyses

Changes in level of well-being. To test the main hypothesis that having intentions to increase in happiness while engaging in a “right” strategy will be beneficial in terms of gains in well-being, a repeated measures factorial analysis of variables (ANCOVA) was conducted, with the subjective well-being (SWB) composites from time 1 to time 2 predicted by the main effects of level of intentions and type of activity, the interaction term of the two factors, and dispositional optimism as a control variable. According to this analysis, the interaction of activity type and levels of intentions ($F(2, 154) = .39, p = .68$) and the main effect of activity type ($F(1, 154) = .06, p = .80$) did not predict change in SWB across the time points, in contrast to the hypothesis and to the results in Study 1. However, level of intentions significantly predicted participants' change in SWB over time ($F(1, 154) = 3.44, p = .03$, see Figure 2). To examine how participants varied across level of intentions, additional ANCOVAs were conducted to compare two levels of intentions at a time. Participants in the no intentions condition significantly differed in their change in well-being (see Table 1 for means) compared to participants in the high intentions condition ($F(1, 124) = 5.04, p = .03$). Participants in the neutral condition also differed significantly from participants in the high intentions condition ($F(1, 91) = 4.55, p$

= .04) but not from participants in the no intentions condition ($F(1, 92) = .35, p = .56$). Further tests of change in SWB by level of condition showed that participants in the high intentions conditions (across the activity type conditions) decreased in well-being over time ($t(63) = -2.06, p = .04$), whereas participants in the neutral ($t(31) = 1.51, p = .14$) and the no intentions conditions ($t(64) = 1.01, p = .31$) did not. Although not statistically significant, the change in SWB between T1 and T2 for the no intentions and the neutral conditions show a trend opposite to the high intentions condition.

A supplementary analysis conducted using the manipulation check item representing participants' own intentions to increase happiness demonstrated results consistent with the hypothesis. In this analysis, SWB at T2 was regressed on participants' own intentions (manipulation check item), controlling for SWB at T1 and dispositional optimism. Results showed that participants' intentions to increase in happiness negatively predicted SWB at T2 ($\beta = -.14, p = .03$).

Thus, the prediction that attempting to become happier fosters one's level of happiness was not supported by the current results. Instead, the results suggest that participants who were instructed to react naturally to their assigned activity without attempting to manipulate their level of happiness may be better off, in terms of change in SWB. Interestingly, although the neutral condition did not statistically differ from the high intentions condition in the manipulation check item for intentions to increase in happiness, participants in this condition nevertheless reported higher increase in SWB over time than participants in the high intentions condition. In addition to this finding, the type of activity did not predict differences in SWB; that is, the experimental condition involving the "pay it forward" activity was not more effective than the pro-environmental

behaviors. Possible explanations for these unexpected findings are given in the general discussion section.

Exploratory Analyses of Mediators

To further understand factors that may mediate the relationship between intentions and changes in SWB, two mediators were tested: autonomous motivation and basic need satisfaction. Based on the results regarding condition differences in participants' reported intention to increase happiness (i.e., the manipulation check item) and the differences in SWB change as predicted by the manipulated intentions factor suggest that the no intentions condition and the high intentions condition are consistently and clearly distinct from each other. Although the neutral condition differed from the high intentions condition in change in SWB, participants in this condition did not differ from participants in the high intentions condition in their reported intention to increase happiness. Thus, in the following exploratory mediation analyses, the no intentions and the high intentions condition represented the varying levels of intention to become happier. The procedure used to test the mediators was modeled after recommendations given by Baron and Kenny (1986). First, associations among the independent variable (levels of intention), the dependent variable (change in SWB), and the mediators (change in autonomous motivation and in need satisfaction) were examined (see Table 2) before proceeding with analyses to obtain the indirect effects of the mediators. The associations among these variables are not standardized beta coefficients, rather than simple correlations, because both the mediators and dependent variable are represented by pairs of variables from T1 and T2. In testing the associations, the T2 variables were regressed

on the predictor variable while controlling for the effects of the respective T1 variables and dispositional optimism.

Autonomous motivation. A regression analysis first examined whether autonomous motivation was predicted by level of intentions or type of activity at the pre-intervention stage. Results show that participants in the high intentions did not differ from those in the low intentions condition in autonomous motivation ($\beta = .01, p = .90$), controlling for dispositional optimism. Thus, it appears that attempting to increase in happiness may not be detrimental to participants' autonomous motivation towards their assigned activities, at least when individuals begin engaging in their activity.

The lack of a significant effect on autonomous motivation at T1 by level of intentions perhaps suggests that at the beginning, individuals who were instructed to try to become happier may not feel pressured to engage in the activities. However, the activities may become more controlling over time as participants feel the "pressure" to become happier. Another regression analysis confirmed that higher intentions negatively predicted autonomous motivation at the post-intervention assessment, T2, (see Table 2), controlling for autonomous motivation and dispositional optimism at the pre-intervention assessment, T1. Thus, it appears that attempting to increase in happiness may not be beneficial to participants' autonomous motivation towards their assigned activities. This suggests that participants did not at first realize that having happiness intentions feels controlling, but over time, came to experience the activity as controlling.

To test autonomous motivation as a mediator between levels of intention and change in SWB, a hierarchical regression was performed (see Table 3). At step1, SWB at T2 was regressed on SWB at T1, intentions, and optimism, and at step 2, autonomous

motivation at T1 and T2 were added to the model. The beta for level of intentions dropped from -.15 to -.13, with the inclusion of change in autonomous motivation as a predictor. However, the change in the beta weight was not significant ($z = 1.34, p = .18$), suggesting that the relationship between levels of intentions and change in SWB cannot be explained by change in autonomous motivation.

Basic need satisfaction. To examine each separate need as a mediator between level of intentions² and change in SWB, associations between the mediators (at T2) and levels of intentions were first examined. As can be seen in Table 2, while the level of intentions significantly and negatively predicted needs for autonomy and relatedness, it did not predict the need for competence. Thus, the remaining analyses focused only on autonomy and relatedness as mediators. Using a hierarchical linear regression, changes in autonomy and relatedness satisfaction were simultaneously tested as mediators in the same regression model. At step 1, the main effects (SWB at T1, levels of intentions, and dispositional optimism as a control variable) were regressed on SWB at T2, followed by step 2, in which the need satisfaction variables (both T1 and T2) were entered simultaneously (see Table 4). Again, the change in beta coefficients for intentions was assessed with Sobels' (1982) tests, which suggested that both the change in autonomy ($z = 2.04, p = .04$) and relatedness ($z = 2.23, p = .03$) significantly mediated the association between intentions and change in SWB. That is, participants' change in SWB over time can be partially attributed to changes in autonomy and relatedness but not in competence. Thus, the current set of results merits further examination of the experience of need satisfaction as an important component of happiness interventions.

² The associations between activity type and the three basic needs were all not significant (p 's > .38); thus, activity type was not further examined in the mediation analyses.

Chapter 4

General Discussion

Does trying to become happier paradoxically lead to less happiness? On one hand, intentions to achieve any outcome, whether it is getting enough physical exercise or becoming an expert pianist, seem to be crucial in engendering effort and persistence. Some prior research on successful goal pursuit or behavioral engagement (e.g., Gollwitzer, 1990; Locke & Latham, 2002) assumes that intentions to engage in a certain behavior or to achieve a certain outcome provide the impetus and guidance necessary to direct ourselves to the desired outcomes. Although the pursuit of happiness has yet to be examined as a goal, it stands to reason that intentions to become happier are important to one's active involvement in activities that result in positive experiences.

On the other hand, the very process of attempting to increase in happiness may interfere with gaining happiness. Schooler et al. (2003) propose that when individuals self-reflect on their mood or happiness while engaging in an activity meant to influence their hedonic state, individuals' sensitivity to their hedonic state is reduced. In addition to interfering with momentary hedonic experiences, Schooler et al. (2003) posit that intentions to be happy may also prove self-defeating in a longer-term context. Specifically, when individuals are focused on their personal gains in happiness, rather than the activity or behavior at hand, by definition, these individuals are extrinsically oriented towards the very activity or behavior that may otherwise provide experiences of pleasure. In other words, the conscious focus on happiness may detract from fully

engaging with the activity and from the consequences of this higher quality form of engagement. Currently, the lack of research on happiness as a conscious goal makes it difficult to evaluate these ideas.

Thus, the current research attempted to investigate whether pursuing happiness outright is doomed to failure using two separate studies. The first study examined intentions to feel happy in a short-term, momentary context, using a procedure adapted from a study presented by Schooler et al. (2003). A major point of distinction of this study was the comparison of two pieces of music that vary in tone and mood, and results indicated that intentions to become happier may be beneficial when combined with the appropriate or correct strategy. In this study, participants who were asked to try to feel happier later reported higher positive mood when they were given Copland's *Rodeo* rather than Stravinsky's *Rite of Spring*, which is thought to be more ambiguous and discordant in tone. In sum, this study's findings is consistent with the idea that it takes both a "will and a way" to become happier (Lyubomirsky et al., under review) and supported the main hypothesis of this research that intentions to become happier promotes increases in happiness.

In contrast, the results of Study 2 indicate that conscious intentions to become happier do not facilitate positive gains in happiness, which is consistent with Schooler et al.'s (2003) argument. Study 2 examined the pursuit of happiness using a longitudinal design, which allowed an examination of changes in happiness over a longer length of time. Participants in this study were asked engage in one of two activities, and similar to Study 1, were instructed to either try to become happier through the activity or to react naturally to the activity and avoid manipulating their mood. Unlike Study 1, participants

who were instructed to avoid trying to increase their happiness were more likely to increase in happiness compared to participants instructed to try to become happier. This finding is also inconsistent with the main hypothesis that explicit intentions to become happier are beneficial to the pursuit of happiness.

The results also indicated that increases in need satisfaction from engaging in the activities corresponded with increases in SWB. In particular, changes in basic needs for autonomy and relatedness mediated changes in SWB. Also, these findings showed that low, rather than high intentions were associated with higher need satisfaction, which is inconsistent with original predictions that high intentions would be more beneficial for the experiences resulting from activity engagement. Despite the failure to conform to hypotheses, these results are consistent with previous research on the role of need satisfaction in well-being (Ryan & Deci, 2000; Sheldon, Abad, et al., in press). The current research supports the view that positive experiences that lead to increases in well-being involve the satisfaction of basic needs.

Although need satisfaction significantly mediated the association between levels of intentions and SWB, autonomous motivation did not emerge as a mediator, due to the non-significant association between levels of intentions and participants' autonomous motivation towards their assigned activities. This finding is not in accordance with Schooler et al.'s (2003) proposal that directly pursuing happiness comes at a cost of having an intrinsic focus towards the activity at hand. This suggests that explicit

intentions in the pursuit of happiness influence changes in happiness through other factors, such as need satisfaction.³

Inconsistency between the Studies

The results of the two studies did not cohere to provide a more conclusive answer to the question of whether intentionally pursuing happiness is a self-defeating endeavor. There are at least two possible reasons for the differences in results. First, the length of time that participants engaged in the happiness activity may moderate the influence of intentions on happiness. In Study 1, the music activity that participants engaged in lasted about 10 minutes while in Study 2, the weekly activity required sustained effort for about 3 weeks. It is possible that intentions to be happier is beneficial in the extreme short-term but is problematic in the long-run. Lifting one's mood momentarily may be an easier task than raising one's chronic level of happiness, and conscious intentions may affect one's regulation of mood or sustained happiness in different ways. Conscious intentions may promote increased effort and receptivity to the activity during the short-term (as long as what one is doing is likely to be effective), whereas in the long-term, intentionally pursuing happiness may be a less effective strategy.

Arguably, engaging in the activities in Study 2 is more cognitively and behaviorally taxing compared to listening to music as in Study 1. Participants in Study 2 were asked to generate and perform acts, in addition to their daily routines, and it is possible that the maintenance of these acts required them to expend greater cognitive and behavioral effort. Perhaps when individuals' minds are occupied with planning and engaging in happiness activities, they are better off avoiding intentionally pursuing

³ Because of the low reliability of this scale, it is possible that future research may show that autonomous motivation does mediate changes in SWB, when using a more reliable measurement of autonomous motivation.

happiness. According to the ironic processes theory (Wegner, 1994; Wegner, Erber, & Zanakos, 1993), when individuals intentionally try to control their mental states, they experience the opposite of what they attempt. For example, individuals who are intentionally trying to suppress negative feelings may instead exacerbate their situation by becoming even more aware of their negative state. Ironic processes theory holds that in addition to the conscious, intentional mental process that seeks cues that signal successful mental control, individuals have an ironic monitoring process that seeks evidence that disconfirms successful mental control. That is, for individuals who are attempting to increase happiness, the ironic monitoring process may bring to mind evidence that individuals are unhappy or unsuccessful at their attempt to become happier. The ironic monitoring process is thought to occur when individuals are under cognitive duress. Thus, in the current study, the work required to maintain their assigned activities may have presented such a cognitive load that participants who were asked to intentionally become happier may have backfired in their attempt to do so. Study 1 did not show that the intentional attempt to feel happy was unsuccessful, perhaps due to the relative ease of listening to music.

Another possibility may lie in the different method used to measure mood in Study 1 compared to the study described by Schooler et al. (2003). In Study 1, participants were asked to report their mood once after listening to the entire set of music; however, participants in Schooler et al.'s (2003) reported their mood at multiple points while they listened to music. Thus, one reason why Study 1's results were not consistent with Schooler et al.'s (2003) study may be due to this difference in design. Schooler et al. (2003) notes that introspection about one's hedonic state may reduce sensitivity to the

hedonic experience itself, and participants in Study 1 were not prompted to continuously focus on their mood. Also, perhaps constantly evaluating one's mood is a mentally taxing task resulting in fewer regulatory resources to attend to the music itself, similar to regulating emotions (Schmeichel, Demaree, Robinson, & Pu, 2006).

Future research should focus on resolving the inconsistency between the two studies. One line of research can examine the length of the happiness activity as a factor that moderates the effect of intentionally pursuing happiness on subsequent changes in happiness. A question remains as to how far apart the time intervals should be to appropriately examine activity length as a factor. Another study can more formally examine the effect of constant evaluation of one's mood on satisfaction and experience with the activity. In such a study, participants who make constant ratings of their mood can be compared with participants who make a single rating of their mood on subsequent enjoyment of the activity.

Further Exploring the Possibility that Intentions May Harm the Pursuit of Happiness

Based on the results of Study 2, intentionally attempting to raise happiness may be ineffective. If this is the case, it is important to understand how intentions are harmful to the pursuit of happiness. In addition to the possible mediators explored in Study 2, future research should clarify the mechanism that underlies the relationship between intentional pursuit and lack of improvement in happiness. In doing so, focusing on motivation and regulatory processes underlying the pursuit of happiness may yield valuable information.

Disentangling the Meaning of "Intentions." When discussing intentions to become happier, it is important to describe in detail what it means to "have intentions" to

become happier. Schooler et al. (2003) propose that efforts to directly influence one's level of happiness is likely to be unsuccessful; however, this does not preclude the possibility that individuals can direct their energy towards meaningful and beneficial activities and derive positive gains in well-being from the activities. A previous study of a happiness intervention demonstrated that when individuals made progress on goals related to the basic needs (i.e., autonomy, relatedness, competence), compared to goals about life circumstances in the comparison condition, they reported higher SWB at the post-intervention assessment (Sheldon et al., in press). Thus, individuals may derive benefits when pursuing happiness under certain circumstances.

One way to understand how it might be that pursuing happiness intentionally might both result in positive changes in happiness or null effect on happiness may involve examining intentions directed at different aspects of the overarching goal towards happiness. That is, individuals may pursue happiness by focusing on the specific activities that contribute to happiness, rather than on changing happiness itself. Such a strategy may be described as being *process-focused*, that is, when individuals direct their attention and efforts towards successfully accomplishing the specific activities that lead to positive experiences. In contrast, when individuals are preoccupied by increasing their level of happiness with proportionally less attention to completing the activities themselves, they may be described as being *outcome-focused*. This distinction between process versus outcome in pursuing happiness is partly based on Pham and Taylor's (1999) comparison of process and outcome simulations. In their study, students who were asked to imagine in detail that they were preparing for an upcoming exam (process-

simulation) eventually achieved higher grades compared to students who were asked to imagine that they had received a high grade on the exam (outcome-simulation).

There are a couple of reasons why it may be beneficial for individuals to be process-focused, rather than outcome-focused when pursuing happiness. First, when individuals are process-focused, they may be more likely to intrinsically engage in the target behaviors and activities, because they are assumedly more concerned about the actual process of attaining happiness. Second, by focusing more on the activities and target behaviors, individuals' tendencies to think at length about their personal happiness and whether it has changed or not are reduced. Recall that a couple of the limitations in pursuing happiness listed above involved judging one's level of happiness and self-reflecting about happiness. If individuals are process-focused, they are more likely to be preoccupied by thoughts about whether they are successfully accomplishing the activities, rather than whether the activities are making them happier, as would be characteristic of individuals who are outcome-focused.

Limitations

Several limitations of this study should be considered when interpreting the findings of the two studies. First, a major limitation of this research involves the measurement of mood, happiness, and well-being. According to Schooler et al. (2003), one of the difficulties associated with pursuing happiness is individuals' ability to accurately assess their hedonic state; thus, the sole use of self-report measures to assess mood and happiness in the current studies poses a limitation. Future research should therefore consider employing alternative methods in assessing individuals' hedonic states and well-being, including implicit measures and physical indices.

Second, the samples for the two studies were drawn from a predominantly European-American population. Thus, the cross-cultural relevance of the findings is limited to individuals from other backgrounds who share similar views on achieving happiness. Although people across the globe generally seem to value happiness (Diener & Biswas-Diener, 2008), certain cultural differences in strategies to become happier may exist. If this is the case, the findings regarding intentionally pursuing happiness should be interpreted cautiously when applying them to non-European-American individuals.

Third, while the purpose of this research was driven by the need to understand how individuals can increase and maintain their happiness over a long period of time, Study 2 lasted only about 4 weeks. Whether the changes in happiness resulting from this study can be sustained is unknown. According to Sheldon and Lyubomirsky's (2006) model of happiness, individuals are thought to continue to derive benefits from their activities as long as the activities are sustained and attempts are made to incorporate variety. Extensions of this work should include longer time-frames to examine the sustainability of happiness changes.

Lastly, the scale used to measure autonomous motivation based on work by Ryan and Connell (1989) demonstrated unsatisfactory reliability. Thus, it is difficult to know whether the null results regarding autonomous motivation both as a dependent variable and a mediator can be attributed to the poor reliability of the scale. One way to improve the reliability of this scale would be to add more items that reflect each of the motivation types (i.e., external, introjected, identified, intrinsic), and future work should incorporate an improved scale to reassess the association between intentions and autonomous motivation.

In conclusion, despite these limitations, the data from the two studies offer mixed findings regarding the intentional pursuit of happiness. While conscious efforts to feel happy may be effective when using the “right” strategy in the short-term, avoiding attempts to manipulate one’s happiness may be a more effective strategy in the long-term. Although the two studies did not provide a consistent set of results, they prompt interesting questions for future research directions to more closely examine the outcomes of intentionally pursuing happiness.

References

- Ajzen, I. (1985). From intentions to action: A theory of planned behavior. In J. Kuhl & J. Beckmann (Eds.), *Action-control: From cognition to behavior* (pp. 11–39). New York: Springer.
- Armitage, C. J., & Conner, M. (2001). Efficacy of the theory of planned behaviour: A meta-analytic review. *British Journal of Social Psychology, 40*, 471–500.
- Clary, E. G., & Snyder, M. (1991). A functional analysis of altruism and prosocial behavior: The case of volunteerism. In M. S. Clark (Ed.), *Prosocial Behavior* (pp.119-148). Newbury Park, CA: Sage Publications.
- Cohn, M. A. & Fredrickson, B. L. (2006). Beyond the moment, beyond the self: Shared ground between selective investment theory and the broaden-and-build theory of positive emotion. *Psychological Inquiry, 17*, 39-44.
- Deci, E. L., & Ryan, R. M. (1985). Intrinsic motivation and self-determination in human behavior. New York: Plenum Publishing Co.
- Diener, E. & Biswas-Diener, R. (2008). *Happiness: Unlocking the mysteries of psychological wealth*. Maldon, MA: Blackwell Publishing.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment, 49*, 71-75.
- Diener, E. & Lucas. R. E. (2000). Subjective emotional well-being. In M. Lewis & J. M. Havilands (Eds.). *Handbook of Emotions (2nd Ed.)* (pp. 325-337). New York: Guilford Press.
- Dunn, E. W., Aknin, L. B., & Norton, M. I. (2008). Spending money on others promotes happiness. *Science, 319*, 1687-1688.

- Emmons, R.A. & McCullough, M. E. (2003). Counting blessings versus burdens: An experimental investigation of gratitude and subjective well-being in daily life. *Journal of Personality and Social Psychology, 84*, 377-389.
- Ferguson, Y. L. (2009). *Gratitude, well-being, and environmental conscientiousness*. Unpublished data.
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist, 56*, 218-226.
- Fredrickson, B. L., & Joiner, T. (2002). Positive emotions trigger upward spirals toward emotional well-being. *Psychological Science, 13*, 172-175.
- Geers, A. L., Kosbab, K., Helfer, S. G., Weiland, P. E., & Wellman, J. A. (2007). Further evidence for individual differences in placebo responding: An interactionist perspective. *Journal of Psychosomatic Research, 62*, 563-570.
- Geers, A. L., Weiland, P. E., Kosbab, K., Landry, S. J., & Helfer, S. G. (2005). Goal activation, expectations, and placebo effect. *Journal of Personality and Social Psychology, 89*, 143-159.
- Gollwitzer, P. M. (1990). Action phases and mindsets. In E. T. Higgins & R. M. Sorrentino (Eds.), *The handbook of motivation and cognition: Foundations of social behavior* (Vol. 2, pp. 53–92). New York: Guilford Press.
- Gollwitzer, P. M. (1993). Goal achievement: The role of intentions. *European Review of Social Psychology, 4*, 141–185.
- Gollwitzer, P. M. (1999). Implementation intentions: Strong effects of simple plans. *American Psychologist, 54*, 493–503.

- Gollwitzer, P. M., & Sheeran, P. (2006). Implementation intentions and goal achievement: A meta-analysis of effects and processes. *Advances in Experimental Social Psychology*.
- Heckhausen, H., & Gollwitzer, P. M. (1987). Thought contents and cognitive functioning in motivational versus volitional states of mind. *Motivation and Emotion*, *11*, 101–120.
- Just, N., & Alloy, L. B. (1997). The response styles theory of depression: Tests and an extension of the theory. *Journal of Abnormal Psychology*, *106*, 221-229.
- Larson, R. J. (2000). Toward a science of mood regulation. *Psychological Inquiry*, *11*, 129-141.
- Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. *American Psychologist*, *57*, 705-717.
- Lyubomirsky, S. (2007). *The how of happiness: A scientific approach to getting the life you want*. New York: Penguin Press.
- Lyubomirsky, S., Dickerhoof, R., Boehm, J. K., & Sheldon, K. M. (under review). It takes both a will and a proper way: Two experimental longitudinal interventions to boost well-being.
- Lyubomirsky, S., King, L. A., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin*, *131*, 803-855.
- Lyubomirsky, S. & Lepper, H. S. (1999). A measure of subjective happiness: Preliminary reliability and construct validation. *Social Indicators Research*, *46*, 137-155.
- Lyubomirsky, S., Sheldon, K. M., & Schkade, D. (2005). Pursuing happiness: The architecture of sustainable change. *Review of General Psychology*, *9*, 111-13.

- Midlarsky, E. (1991). Helping as coping. In M. S. Clark (Ed.), *Prosocial Behavior* (pp.238-264). Newbury Park, CA: Sage Publications.
- Mill, J. S. (1964/1874). *Autobiography*. New York: Signet Classics.
- Milne, S., Sheeran, P., & Orbell, S. (2000). Prediction and intervention in health related behavior: A meta-analytic review of protection motivation theory. *Journal of Applied Social Psychology, 30*, 143–166.
- Mor, N., & Winquist, J. (2002). Self-focused attention and negative affect: A meta-analysis. *Psychological Bulletin, 128*, 638-662.
- Musick, M. & Wilson, J. (2003). Volunteering and depression: The role of psychological and social resources in different age groups. *Social Science and Medicine, 56*, 259-269.
- Nesse, R. M. (1990). Evolutionary explanations of emotions. *Human Nature, 1*, 261-289.
- Nesse, R. M. (2004). Natural selection and the elusiveness of happiness. *Philosophical Transactions of the Royal Society B: Biological Sciences, 359*, 1333-1347.
- Nolen-Hoeksema, S., Wisco, B. E., & Lyubomirsky, S. (2008). Rethinking rumination. *Perspectives on Psychological Science, 3*, 400-424.
- Pham, L. B., & Taylor, S. E. (1999). From thought to action: Effects of process-versus outcome-based mental simulations on performance. *Personality and Social Psychology Bulletin, 25*, 250-260.
- Piliavin, J. A. (2005). Feeling good by doing good: Health consequences of social service. In A. M. Omoto (Ed.), *Processes of Community Change and Social Action* (pp. 29-50). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

- Post, S. G. (2005). Altruism, happiness, and health: It's good to be good. *International Journal of Behavioral Medicine, 12*, 66-77.
- Ryan, R. M., & Connell, J. P. (1989). Perceived locus of causality and internalization. *Journal of Personality and Social Psychology, 57*, 749-761.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*, 68-78.
- Schachter, S. & Singer, J. E. (1962). Cognitive, social and physiological determinants of emotional state. *Psychological Review, 69*, 379-399.
- Scheier, M. F. & Carver, C. S. (1993). On the power of positive thinking: The benefits of being optimistic. *Current Directions in Psychological Science, 2*, 26-30.
- Schmeichel, B. J., Demaree, H. A., Robinson, J. L., & Pu, J. (2006). Ego depletion by response exaggeration. *Journal of Experimental Social Psychology, 42*, 95-102.
- Schooler, J. W., Ariely, D., & Lowenstein, G. (2003). The pursuit and assessment of happiness can be self-defeating. In I. Brocas & J. D. Carrillo (Eds.). *The Psychology of Economic Decisions* (pp. 41-72). New York: Oxford University Press.
- Schwartz, C. E., & Sendor, M. (1999). Helping others helps oneself: Response shift effects in peer support. *Social Science and Medicine, 48*, 1563-1575.
- Schwarz, N., & Clore, G. L. (1983). Mood, misattribution, and judgments of well-being: Informative and directive functions of affective states. *Journal of Personality and Social Psychology, 45*, 513-523.

- Schwarz, N., & Strack, F. (1999). Reports of subjective well-being: Judgmental processes and their methodological implications. In D. Kahneman, E. Diener, & Schwarz, N. (Eds). (1999). *Well-being: The foundations of hedonic psychology* (pp. 61-84). New York, NY: Russell Sage Foundation.
- Strack, F., Martin, L. L., & Schwarz, N. (1988). Priming and communication: Social determinants of information use in judgments of life satisfaction. *European Journal of Social Psychology, 18*, 429-442.
- Seligman, M. E. P. (2002). *Authentic happiness*. New York: Free Press.
- Seligman, M. E. P., Steen, T. A., Park, N., & Peterson, C. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist, 60*, 410-421.
- Sheldon, K. M. (2002). The self-concordance model of healthy goal striving: When personal goals correctly represent the person. In E. L. Deci & Ryan, R. M. (Eds), *Handbook of self-determination research* (pp. 65-86). Rochester, NY: University of Rochester Press.
- Sheldon, K. S., Abad, N. S., Ferguson, Y. L., Gunz, A., Houser-Marko, L., & Nichols, C. P. (in press). Persistent pursuit of need-satisfying goals leads to increase happiness: A 6-month experimental longitudinal study. *Motivation and Emotion*.
- Sheldon, K.M. & Elliot, A.J. (1999). Goal striving, need-satisfaction, and longitudinal well-being: The Self-Concordance Model. *Journal of Personality and Social Psychology, 76*, 482-497.

- Sheldon, K. M., Elliot, A. J., Kim, Y., & Kasser, T. (2001). What is satisfying about satisfying events? testing 10 candidate psychological needs. *Journal of Personality and Social Psychology, 89*, 325-339.
- Sheldon, K. M., & Gunz, A. (2009). Psychological needs as basic motives, not just experiential requirements. *Journal of Personality, 77*, 1467-1492.
- Sheldon, K. M. & Lyubomirsky, S. (2006). Achieving sustainable gains in happiness: Change your actions, not your circumstances. *Journal of Happiness Studies, 7*, 55-86.
- Sheldon, K. M., Ryan, R. M., & Reis, H. T. (1996). What makes for a good day? Competence and autonomy in the day and in the person. *Personality and Social Psychology Bulletin, 22*, 1270-1279.
- Sobel, M. E. (1982). Asymptotic intervals for indirect effects in structural equations models. In S. Leinhardt (Ed.), *Sociological methodology 1982* (pp.290-312). San Francisco, CA: Jossey-Bass.
- Taylor, S. E., Kemeny, M. E., Reed, G. M., Bower, J. E., & Gruenewald, T. L. (2000). Psychological resources, positive illusions, and health. *American Psychologist, 55*, 99-109.
- Treynor, W., Gonzalez, R., & Nolen-Hoeksema, S. (2003). Rumination reconsidered: A psychometric analysis. *Cognitive Therapy and Research, 27*, 247-259.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*, 1063-1070.

Webb, T. L., & Sheeran, P. (2006). Does changing behavioral intentions engender behavior change? A meta-analysis of the experimental evidence. *Psychological Bulletin*, *132*, 249-268.

Wegner, D. M. (1994). Ironic processes of mental control. *Psychological Review*, *101*, 34-52.

Wegner, D. M., Erber, R., & Zanakos, S. (1993). Ironic processes in the mental control of mood and mood-related thought. *Journal of Personality and Social Psychology*, *65*, 1093-1104.

Table 1

Means and standard deviations of SWB, Study 2

	SWB T1		SWB T2	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Pro-environmental				
No intentions (<i>n</i> = 38)	-.96	3.23	-.79	3.68
Neutral (<i>n</i> = 17)	-.64	3.47	.29	2.60
High intentions (<i>n</i> = 32)	.44	2.81	-.14	3.34
Pay it forward				
No intentions (<i>n</i> = 27)	.41	2.45	.85	2.84
Neutral (<i>n</i> = 15)	1.22	2.67	1.48	3.32
High intentions (<i>n</i> = 32)	.31	3.03	-.45	3.31
Activities combined				
No intentions (<i>n</i> = 65)	-.39	2.99	-.11	3.44
Neutral (<i>n</i> = 32)	.24	3.21	.84	2.41
High intentions (<i>n</i> = 64)	.38	2.90	-.30	3.31

Table 2

Associations (standardized beta coefficients) between levels of intention, mediators, and subjective well-being, Study 2

	Levels of intentions	SWB (T2)
Levels of intentions	—	-.14*
Autonomous motivation (T2)	-.15*	.16*
Need for autonomy (T2)	-.19*	.16*
Need for relatedness (T2)	-.19*	.31**
Need for competence (T2)	-.08	.21**

Note: * $p < .05$, ** $p < .01$. In obtaining the beta coefficients for the association between intentions and the potential mediators, level of intentions was regressed on the mediator, controlling for the mediator at T1 and dispositional optimism. For the associations between level of intentions and mediators with SWB at T2, SWB at T2 was regressed on the predictor variable, controlling for SWB at T1 and dispositional optimism.

Table 3

Hierarchical linear regression testing the association between autonomous motivation and SWB, Study 2

Predictors	
Step 1	
T1 SWB	.54***
Level of intentions	-.15*
Step 2	
T1 SWB	.56***
Level of intentions	-.12†
T1 Autonomous motivation	-.11
T2 Autonomous motivation	.14†

*Note: † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.*

Table 4

Hierarchical linear regression testing the association between basic needs and SWB,

Study 2

Predictors	
Step 1	
T1 SWB	.55***
Level of intentions	-.14*
Step 2	
T1 SWB	.36***
Level of intentions	-.02
T1 Autonomy	.04
T2 Autonomy	.23***
T1 Relatedness	-.03
T2 Relatedness	.37***

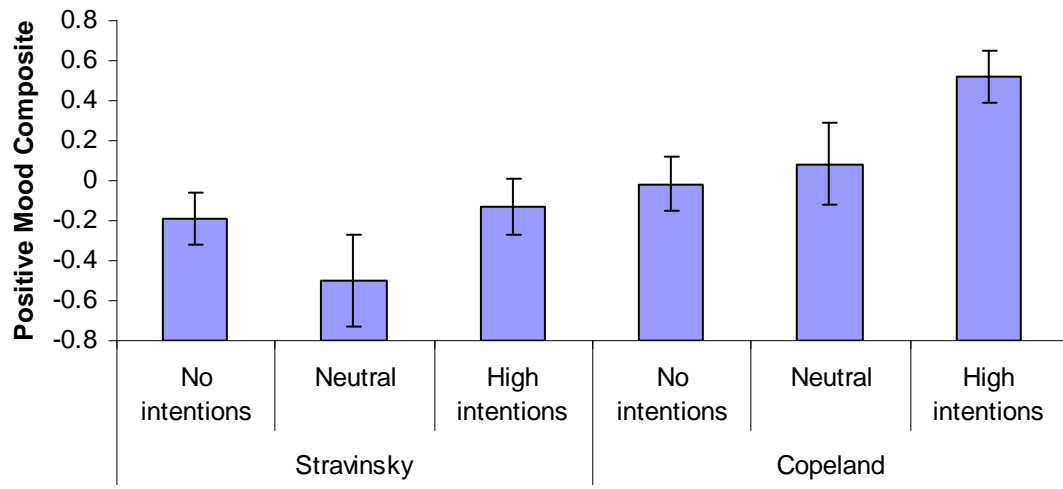


Figure 1. Mean differences in positive mood, Study 1.

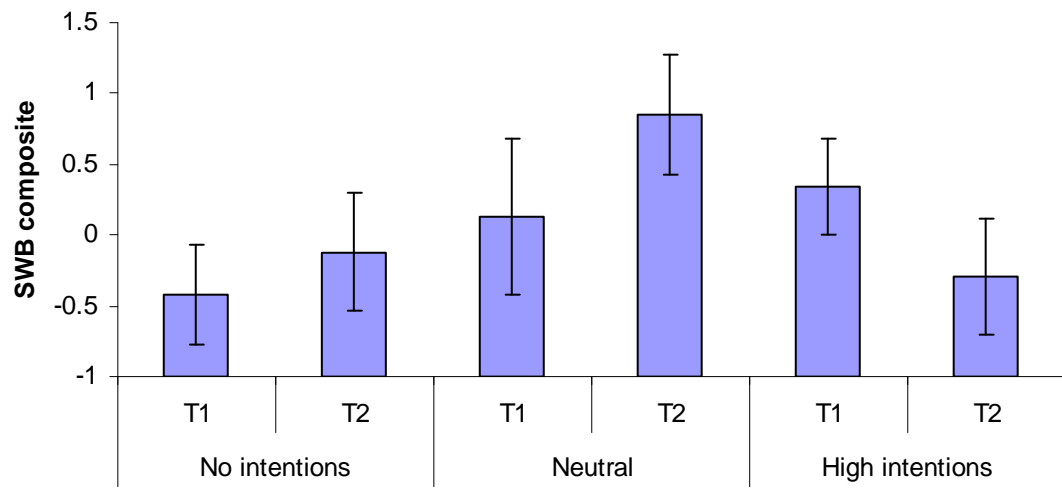


Figure 2. Mean differences in SWB across assessments, Study 2.

VITA

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