

PROMOTING WELL-BEING THROUGH PRIORITIZING POSITIVITY

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ABSTRACT

LAHNNA I. CATALINO: Promoting Well-Being through Prioritizing Positivity
(Under the direction of Dr. Barbara L. Fredrickson)

A decade of research reveals the benefits of positive emotions for both mental and physical health, and yet recent empirical work suggests the explicit pursuit of happiness may backfire. The present research suggests that the pursuit of happiness is not inherently self-defeating and at least one effective way may exist. In particular, I propose that individuals who arrange their lives to include frequent experiences of positivity may be happier. I label this individual difference, prioritizing positivity. Study 1 featured the development and the psychometric properties of the prioritizing positivity scale. Study 2 revealed that prioritizing positivity predicted a host of beneficial mental health outcomes (e.g. positive emotions, life satisfaction, depression). Study 3 examined whether prioritizing positivity predicted heightened attention to positive stimuli, relative to neutral stimuli, and revealed it does not. Study 4 examined whether prioritizing positivity predicted whether people exert greater effort to obtain pleasant experiences, and suggest some evidence in support of this hypothesis. In addition, Study 4 examined if prioritizing positivity predicted people's resources, over time, as mediated by positive emotionality, and found no support. In summary, I provide some evidence to suggest that prioritizing positivity is an individual difference that may promote well-being.

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CHAPTER 1

INTRODUCTION

Why is it that some of us eat lunch outside instead of at our desks? Or make the time to go running? Or put in the effort to host a dinner party? Could it be that some of us seek out positive emotional experiences more than others? Here, I would like to introduce the individual difference, *prioritizing positivity*, the extent to which people arrange their daily lives to include frequent experiences of positivity. I argue prioritizing positivity explains differences in behaviors like those mentioned above, which ultimately may affect people's well-being. In this dissertation, I will formally introduce prioritizing positivity, discuss theory and research relevant to my central claims, and introduce my central five hypotheses.

What is prioritizing positivity?

Prioritizing positivity is an individual difference that reflects how much people proactively structure their lives to include frequent experiences of positivity. In contrast to the notion that happiness can wait, people high on prioritizing positivity pursue happiness as a daily aim, and this manifests in the way they make decisions that implicate their time. (Throughout this document, I use the term happiness to refer to the experience of positive emotions.) For instance, when deciding on a career, people high on prioritizing positivity consider the potential happiness each path may bring. When planning a weekend, people high on prioritizing positivity may reserve Saturday afternoons for watching college football, or taking their family to one of the local parks.

Others may always start their weekdays reading the *New York Times* or ‘skyping’ with a family member. The exact behaviors or choices may differ drastically from one person to the next, but the thread that connects these behaviors together is a tendency to seek out positivity in the context of everyday life.

Why is prioritizing positivity important?

Prioritizing positivity is important, because it may reflect one way individuals may deliberately and effectively pursue happiness in day-to-day life. Virtually everyone wants to be happy (Diener, Sapta, & Shug, 1998), and the past decade of research reveals the benefits of happiness for mental and physical health (for meta-analyses see Howell, Kern, & Lyubomirsky, 2007; Lyubomirsky, King, & Diener, 2005; Steptoe, Dockray, & Wardle, 2009). Positive emotions predict how well people’s immune systems function, their job performance, and the strength of their social bonds (Lyubomirsky, et al., 2005). The broaden-and-build theory of positive emotions posits that positive emotions actually cause these favorable outcomes via repeated experiences of broadened cognition (Fredrickson, 1998, 2013) and longitudinal field experiments offer initial empirical support (Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008; Kok, Coffey, Cohn, Catalino, Vacharkulksemsuk, Algoe, Brantley & Fredrickson, in press).

Outside of signing up for a positive psychology intervention, however, can people deliberately and effectively pursue happiness? Available research has shown that the explicit pursuit of happiness is tricky. For instance, deliberately trying to increase one’s happiness in the moment may backfire. In one study, participants either read an article that described the benefits of being able to make oneself happy from moment to moment (with the idea that experiencing high levels of happiness during the film clip was

possible), or an article that did not mention happiness at all (Mauss, Tamir, Anderson, & Savino, 2011). Then participants either watched a happy or sad film clip. Participants who tried to maximize their happiness actually felt worse, in comparison to the control group, after watching the happy film clip. Mediation tests revealed that this decrement in mood was accounted for by disappointment and self-blame. This research suggests that trying to be happier, coupled with the idea it is possible to achieve high levels of happiness, can indeed backfire. In addition, in another study, described in a published book chapter, participants who just monitored their happiness reported feeling less happy while listening to a piece of hedonically ambiguous music, compared to those who just listened to the music (Schooler, Ariely, & Loewenstein, 2003). Even without attempt to create happiness, the act of simply paying continuous attention to one's happiness may boomerang, leading to less happiness.

Beyond these experiments, recent individual difference research suggests that relating to one's happiness in an obsessive manner may chase happiness away. Specifically, participants who scored higher on excessively valuing happiness (e.g. "How happy I am at any given moment says a lot about how worthwhile my life is.") displayed poorer mental health (Mauss et al., 2011). Although this measure does not assess the pursuit of happiness per se, but rather how much happiness matters to individuals, it does suggest that putting too much emphasis on happiness can be harmful. In short, it is worthwhile to consider whether there may be an approach to pursuing happiness that allows people to experience more positive emotions without experiencing the costs of over-emphasizing it.

Might prioritizing positivity be an effective way to pursue happiness?

Although empirical evidence suggests that pursuing happiness can make people feel worse, there is reason to believe this is not the whole story. Relevant studies have only addressed the effects of deliberately trying to up-regulate positivity in the moment while completing a laboratory task, like watching a film clip. Why might this be the case? Deliberately up-regulating positivity in the moment may be a counter-productive emotion-regulation strategy, because of the substantial degree of self-monitoring that is required—a tactic that, by itself, appears to cause happiness to plummet (Schooler et. al., 2003). The notion that self-awareness can interfere with experiencing pleasant moods (Leary, 2007; Kesebir & Diener 2008) is consistent with a pattern in the research literature, which suggests that “losing the self” characterizes enjoyable experiences. For instance, research on flow, the experience of being completely immersed in an activity such that a sense of time and space is lost, is an example (Czikszentmihalyi, 2008). Further, in an experience-sampling study, in which participants were randomly beeped through the day to report on their behavior and mood, the less people’s minds wandered during an activity, the higher their mood (Killingsworth & Gilbert, 2010). To pursue happiness effectively, why not “let go” of maximizing positivity in the moment and simply maximize the likelihood of experiencing spontaneously-generated positive emotions on a more frequent basis? People who focus on putting themselves in situations where they are likely to experience happiness may, in turn, actually experience more happiness, overall.

This approach to pursuing positivity involves capitalizing on a type of emotion-regulation process, namely, situation-selection. Situation-selection refers to a process by which people manage the situations they encounter with an eye towards the emotional

implications of these situations (Gross & Thompson, 2007). Avoiding watching horror films, for instance, is an example of how people may manage the potential emotional experience of fear. Situation-selection represents one of the five major ways people regulate or change their emotions. The other emotion regulation processes include, situation modification, attentional deployment, cognitive change, and response modulation. Each of the different emotion regulation processes differ in the timing at which they have their influence, and situation-selection represents the earliest and most proactive way through which individuals can influence their emotional experience. Theoretically, the earlier in the emotion-generative process that emotion regulation occurs, the more far-reaching the effects on emotional experience are (Gross & Thompson, 2007). As such, situation-selection may be a particularly powerful way to increase positive emotions.

In addition, there is theoretical and empirical work consistent with the notion that arranging one's day-to-day life to include frequent experiences of positivity may be an effective approach to pursuing happiness. For instance, the integrative model of sustainable happiness, in which a genetic set point, circumstances, and intentional activities comprise a person's chronic level of happiness, suggests that engaging in pleasant activities regularly is integral to increasing and maintaining happiness (Lyubomirsky, Sheldon, & Schkade, 2005). Indeed, the results of many positive psychology interventions, like writing gratitude letters, engaging in acts of kindness, and meditation, reveal that engaging in certain activities regularly can make a difference (for a review on positive interventions, see Parks & Biswas-Diener, 2012). In addition, scheduling pleasant events, like playing with pets, has been found to be an effective

strategy to increase positive affect among individuals suffering from depression (Lewinsohn & Sullivan, 1982).

To empirically demonstrate that prioritizing positivity is a construct distinct in its own right, one of the first aims of this dissertation is to develop a scale to measure prioritizing positivity and investigate the scale's psychometric properties. To that end, I generated a series of potential items that reflect the construct and examined the underlying factor structure of prioritizing positivity using exploratory factor analysis. Then, I tested a set of hypotheses relevant to establishing the convergent and discriminant validity of prioritizing positivity, which I will describe in detail below. In addition to developing a scale to measure prioritizing positivity, the second aim of this dissertation is to examine whether prioritizing positivity predicts higher well-being. Specifically, I hypothesize that prioritizing positivity will be positively associated with more frequent positive emotions, less frequent negative emotions, greater life satisfaction, less depression, and less anxiety.

Developing a scale to measure prioritizing positivity and establishing its convergent and discriminant validity

To establish convergent validity for prioritizing positivity, I hypothesize that prioritizing positivity will be positively associated with constructs that tap into either a valuation of positive emotional states or the pursuit of them. Hedonism, the tendency to consider pleasures (e.g. food, sex) to be important in life, is among one of these constructs (Schwarz, 1992). Hedonism is similar to prioritizing positivity, because both tendencies reflect the idea that pleasant experiences are worthwhile. Where hedonism and prioritizing positivity differ, however, is the extent to which prioritizing positivity

reflects a behavioral tendency. People who consider pleasures to be important may be more likely to seek out pleasant activities, but a value and a behavioral tendency are two separate things—people can value a multitude of things, and not necessarily act in accord with these values. Further, hedonism focuses on the pleasures of life that involve fulfillment of basic needs like eating and sexual behavior, whereas prioritizing positivity encompasses a wider net of pleasant experiences, ranging from the contentment that arises from engaging in a hobby to the enthusiasm experienced during a basketball game.

Ideal affect refers to the affective states that individuals “value, prefer, and ideally want to feel” (Tsai, 2007: p. 242). Generally speaking, people ideally want to feel more pleasant states than they actually feel (Tsai, 2007). Ideal positive affect shares conceptual space with prioritizing positivity, because both constructs reflect a desire to experience pleasant states frequently. Ideal affect differs from prioritizing positivity, because wanting to feel happy is a preference, whereas organizing a day with one’s happiness in mind is a behavior. Hypothetically, a person could ideally want to feel pleasant states all of the time, yet not actually alter his or her lifestyle in any measureable way.

Excitement-seeking refers to the tendency to enjoy and pursue exciting experiences (Costa & McCrae, 1992). People high on excitement-seeking like to be where the action is and revel in the stimulation that a crowded concert or sporting event provides. Prioritizing positivity and excitement-seeking are similar, because they both reflect a behavioral tendency to pursue rewarding experiences. Where they differ, however, is that prioritizing positivity involves the pursuit of a range of pleasant states, ranging from low-activation positive states like tranquility to high-activation positive

states like excitement. In addition, prioritizing positivity differs from excitement-seeking in the level of emphasis with which pleasant states are pursued. People high in prioritizing positivity seek out positivity as a key criterion for how to structure everyday life, whereas people high in excitement-seeking seek out “kicks” or thrills” as an abstract life goal, which may well not affect the organization of day-to-day life.

Valuing happiness to an extreme refers to the extent to which individuals consider happiness to be very meaningful in life, if not the only thing that matters (Mauss et. al., 2011). Prioritizing positivity shares conceptual space with valuing happiness, because both constructs reflect the notion that happiness is a highly desired state. Where they differ is that people high in prioritizing positivity do not necessarily consider happiness to be the *only* thing that has worth in their lives; happiness is a priority, but other important goals may exist. Further, valuing happiness to an extreme does not speak to the actual pursuit of pleasant experiences, whereas this is the essence of prioritizing positivity.

To establish discriminant validity for prioritizing positivity, I hypothesize that prioritizing positivity will be not be associated with personality constructs such as agreeableness, openness to experience, and impulsivity. Agreeableness refers to the tendency to be cooperative and friendly with others (Graziano & Tobin, 2009). Although prioritizing positivity and agreeableness both appear to be desirable personality tendencies, there is no clear reason to believe that people who organize their day-to-day lives with positivity in mind are more or less likely to be trusting with others.

Openness to experience reflects the tendency to be intellectually curious, and involves being imaginative and even more liberal (McCrae & Sutin, 2009). Although the tendency to prioritize positivity may manifest by learning about new topics, this does not

necessarily mean people high in prioritizing positivity, generally speaking, are more inquisitive. Further, the tendency to arrange one's life to include frequent experiences of positivity likely has no relation to one's imagination or political orientation.

Impulsivity refers to the tendency to act on urges without much caution (Costa & McCrae, 1992). Because prioritizing positivity involves placing positivity as a key aim in day-to-day life, one may assume that people high in prioritizing positivity may be driven by their whims more. I hypothesize that prioritizing positivity will have little, if any, bearing on how impulsive people are. Indeed, given that prioritizing positivity often involves some degree of forethought, there may be actually be a negative association between prioritizing positivity and impulsivity.

In summary, I hypothesize that prioritizing positivity will be positively associated, to a small to moderate degree, with constructs that reflect either the valuation of pleasant states or the pursuit of them. These constructs include hedonism, ideal affect, excitement-seeking, and valuing happiness to an extreme. In contrast, I predict that prioritizing positivity will not be associated with constructs that tap into personality traits that have no bearing on the extent to which people may deliberately incorporate regular experiences of positivity into their daily lives. The constructs include agreeableness, openness to experiences, and impulsivity.

Prioritizing positivity may heighten attention to positive stimuli

Assuming a positive relationship between prioritizing positivity and positive emotions exists, I hypothesize that one way prioritizing positivity may exert its effects on positivity is through heightening attention to positive stimuli in the environment. People's surroundings are filled with a variety of opportunities and things upon which to

focus. Consider an evening walk across campus. Ordinary brick buildings line the walkway and the sun is beginning to set, hues of oranges and reds lighting the sky. Might a person high in prioritizing positivity attend to the beauty of the sunset more than a person low in prioritizing positivity? Research on older adults, who appear to prioritize emotional goals more so than younger adults, reveals that later in life people may attend more to positive stimuli (Mather & Carstensen, 2003). According to the socio-emotion selectivity theory, goals relevant to emotions and well-being become more important with age, because constraints on time become salient (Carstensen, Isaacowitz, & Charles, 1999). And more generally, whenever time constraints or endings become salient, people alter their focus from past or future to the present and as such emotions and well-being are prioritized. In a study using the dot-probe task, older adults (62-94) oriented towards positive information faster than younger adults (ages 18-35). The study was comprised of a series of trials, in which a pair of faces—one emotional (positive or negative) and one neutral—was presented on a computer briefly. Next, a dot appeared where one of the faces had been. Participants were instructed to report as quickly as possible on which side of the screen the dot appeared. Results revealed that older adults were much faster when the dot appeared where the positive face had been than where the neutral face had been, and were slower when the dot appeared where the negative face had been than where the neutral face had been.² Younger adults did not attend more to either the positive or neutral faces. The third aim of this dissertation focuses on the attentional consequences of prioritizing positivity. Specifically, I hypothesize that prioritizing positivity will cause individuals to attend more to positive stimuli, relative to neutral stimuli. These potential differences in attention may have implications for the amount of

positive emotions experienced. If people attend more to the positive aspects of a situation, then these aspects become opportunities to experience positive emotions.

Prioritizing positivity may affect how hard people work for positive events

I predict that another consequence of prioritizing positivity may be that it increases the amount of effort individuals are willing to exert to experience pleasant events. Although pleasant events are by definition enjoyable, many of them require at least some effort to take place. For instance, to host a dinner party, one has to plan a menu, send invitations, and then actually prepare the meal. Given that people high in prioritizing positivity consider pleasant states to be a daily aim, I hypothesize that prioritizing positivity will predict how much people are willing to exert effort to obtain pleasant experiences. The extent to which individuals are motivated to obtain pleasant experiences is called ‘wanting’, and ‘wanting’ is considered to be one of the three central components in reward-processing. Reward-processing appears to be composed of three key components: liking, wanting, and learning (Berridge & Robinson, 2003). To illustrate the differences between these three components, consider the hypothetical scenario of Tim hosting a dinner party for his friends. ‘Liking’ refers to the subjective affective reaction Tim experiences in response to the stimulus, that is, the actual dinner party with his friends. Within minutes of the dinner starting, the conversation becomes animated and bursts of laughter erupt. Neurologically, the mesolimbic opioid system is implicated in the rewarding experience, whereas dopamine is not (Berridge & Robinson, 2003). ‘Wanting’ refers to the incentive salience that motivates an individual to acquire a reward, and also encompasses the motivated behavior involved in obtaining the reward (Berridge & Robinson, 2003). Thus, the extent to which the idea of eating a homemade

meal with his friends is desirable in Tim's mind reflects the extent to which Tim 'wants' to have a dinner party. An additional way of operationalizing 'wanting' is the effort put forth toward hosting the dinner party. Neurologically, the mesolimbic dopaminergic system is implicated. Learning refers to the knowledge about the relationships between the stimulus and certain behaviors. These nuggets of knowledge can be explicit or implicit. That Tim is aware he experiences a 'boost' of positive emotions when hosting a dinner party is an example of learning. Neurologically, more of the cortical regions of the brain are involved. Often times, these different components of reward interact with each other. Even, so it is possible to isolate the three components, and discuss the independent value of each. Given the motivational core of prioritizing positivity, the fourth aim of this dissertation is to test the hypothesis that people high in prioritizing positivity will exert more effort to obtain pleasant experiences.

Prioritizing positivity may, over time, predict greater resources

Thus far, I have outlined at least two proximal ways in which prioritizing positivity may ultimately promote well-being. One way is via attention to pleasant stimuli in the environment, and the other is via the amount of effort expended to obtain pleasant events. I hypothesize that these differences in attention and access to pleasant events may not only elevate people's daily diet of positive emotions, but also may lead to long-term changes in the individual for the better. According to the broaden-and-build theory of positive emotions, over time the cognitive effects (e.g. broadened mindsets) triggered by positive emotions help people to discover and build a variety of personal resources—psychological, cognitive, social, and physical—which ultimately contribute to life satisfaction (Fredrickson, 1998, 2013). As such, my fifth hypothesis states that

because prioritizing positivity may lead to more frequent experiences of positive emotions, over time, greater resources will result.

The importance of positive emotions for people's trajectories towards well-being has received empirical support. In a study, which tracked the emotional lives of students everyday for a month, the underlying processes that might contribute to life satisfaction were examined (Cohn, Fredrickson, Brown, Mikels, & Conway, 2009). Each day, participants reported on their positive and negative emotions. At the start and end of the study, participants' levels of the psychological resource, resilience, was recorded, in addition to their life satisfaction. Participants who experienced more positive emotions throughout the month showed increases in the psychological resource resilience, in addition to life satisfaction. The link between positive emotions and increased life satisfaction was mediated by increases in resilience. That is, participants who experienced frequent positive emotions were more satisfied with their lives, in part because they built a resource that helped them adapt to changes in the environment. These results reveal the powerful role of positive emotion in initiating a series of steps that result in a more fulfilling life. Experiences of positive emotions help people discover skills like resilience, which ultimately improve their life quality.

The importance of positive emotions for people's trajectories towards well-being has also received support in an experimental context. In a large field study, participants were assigned to begin a skills-based intervention or serve in a wait-list control group for 7 weeks (Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008). The purpose of the intervention was to teach participants to self-generate positive emotions through engaging in a practice of loving-kindness meditation. Participants who engaged in meditation

experienced more positive emotions over the course of these weeks, which in turn created increases in a variety of resources, including self-acceptance, competence in dealing with day-to-day responsibilities, and purpose in life. Growth in these resources, although beneficial in their own right, also predicted greater life satisfaction and less depressive symptomology. This field experiment provides striking evidence for the role of positive emotions in the cultivation of well-being.

Overview of Studies and Hypotheses

I conducted a series of four studies—two survey-based studies and two lab experiments (with one being longitudinal)—to test the role of prioritizing positivity in the promotion of well-being. The first study evaluated the psychometric properties of prioritizing positivity. The second study tested whether prioritizing positivity predicts well-being. The third study tested whether prioritizing positivity heightens awareness of positive stimuli in the environment. The fourth study tested whether prioritizing positivity predicts increased effort expended in order to experience pleasant events; it will also test whether prioritizing positivity predicts greater resources over time as mediated by positive emotionality. This research program tests one research question and five central hypotheses:

R1: What is the factor structure of prioritizing positivity?

H1: Prioritizing positivity is a new construct, not redundant with other conceptually-related constructs.

H2: Prioritizing positivity will be positively associated with positive indicators of well-being (positive emotions, satisfaction with life, flourishing) and negatively associated with distress (fewer negative emotions, less depression).

H3: Prioritizing positivity will predict people's heightened attention to positive stimuli, relative to neutral stimuli.

H4: Prioritizing positivity will predict people's greater effort exerted to obtain pleasant experiences.

H5: Prioritizing positivity will predict people's resources, over time, as mediated by positive emotionality.

CHAPTER TWO

PRIORITIZING POSITIVITY: AN EFFECTIVE APPROACH TO PURSUING HAPPINESS?

**Note: This chapter features the text of a manuscript that is currently under peer review for publication (Catalino, Coffey, Algoe, & Fredrickson, 2013). It addresses research question one and hypotheses one and two. Other hypotheses are addressed in the manuscript, but are not were not formally part of the current dissertation. Some redundancies with Chapter 1 were inevitable.*

Does the pursuit of happiness lead to happiness, or does it backfire, ironically making people feel worse? Writers, philosophers, and social commentators alike have cautioned against the pursuit of happiness. For example, German philosopher Arthur Schopenhauer stated that a happy state like joy “as a rule comes uninvited and unannounced, by itself and *sans facon*” (Schopenhauer, 2001: p. 409).

Yet, virtually everyone, regardless of nationality, wants to be happy (Diener, Saptya, & Shuh, 1998). Indeed, feeling good is one of the reasons people consider life worth living (King & Napa, 1998). People want to be happy, and a decade of research now reveals the benefits of happiness for both mental and physical health (for meta-analyses see Howell, Kern, & Lyubomirsky, 2007; Lyubomirsky, King, & Diener, 2005; Steptoe, Dockray, & Wardle, 2009). Among other things, positive emotions predict higher quality relationships, improved physical health, and better work performance (Lyubomirsky et al., 2005). The broaden-and-build theory of positive emotions posits

that positive emotions actually cause these favorable outcomes via repeated experiences of broadened cognition (Fredrickson, 1998, in press) and longitudinal field experiments offer initial empirical support (Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008; Kok, Coffey, Cohn, Catalino, Vacharkulksemsuk, Algoe, Brantley & Fredrickson, in press).

A Caution against the Pursuit of Happiness

As a handful of studies have shown, however, the explicit pursuit of happiness is tricky. People think that moving to a new house, a new region, or even getting married (Lucas & Clark, 2006), will result in perpetual happiness, but after an initial boost, people tend to “get used to” their new circumstances and return to baseline (Frederick & Lowenstein, 1999). This process is known as hedonic adaption. In addition, deliberately trying to maximize one’s happiness in the moment may backfire. In one study, participants read one of two fabricated articles before watching a happy or sad film clip (Mauss, Tamir, Anderson, & Savino, 2011). Some participants read an article that described the benefits of being able to make oneself happy from moment to moment (with the idea that experiencing high levels of happiness during the film clip was possible), or an article that did not mention happiness at all. Participants who tried to maximize their happiness actually felt worse, in comparison to the control group, after watching the positive film clip. Mediation tests revealed that this decrement in mood was accounted for by feelings of disappointment and self-blame. This research suggests that trying to be happier, coupled with the idea it is possible to achieve high levels of happiness, can indeed backfire. Furthermore, another study, described in a chapter, revealed that participants who simply monitored their happiness reported feeling less happy while listening to a piece of hedonically ambiguous music than those instructed

just to listen to the music (Schooler, Ariely, & Loewenstein, 2003). Even without efforts to create happiness, the act of simply paying continuous attention to one's happiness may boomerang, leading to less happiness.

Beyond these experiments, recent individual difference research suggests that relating to one's happiness in an obsessive manner may chase happiness away. Specifically, participants who scored higher on excessively valuing happiness (e.g. "How happy I am at any given moment says a lot about how worthwhile my life is.") displayed poorer mental health (Mauss et al., 2011). Although his measure does not assess the pursuit of happiness per se, but rather how much happiness matters to individuals, it does suggest that putting too much emphasis on happiness can be harmful. In short, it is worthwhile to consider whether there may be an approach to pursuing happiness that allows people to reap the documented benefits of positivity without experiencing the costs of over-emphasizing it.

A More Effective Way to Pursue Happiness?

Although existing empirical evidence suggests that pursuing positivity can make people feel worse, there is reason to believe this is not the whole story. Relevant research has only addressed the effects of deliberately trying to up-regulate positivity during a pleasant experience, like watching a film clip. Why not take the pressure off of maximizing positivity in the moment and instead maximize the likelihood of experiencing spontaneously-generated positive emotions on a more frequent basis? We propose that people who pursue happiness by putting themselves in situations where they are likely to experience happiness may thus reap incidental and life-sustaining rewards caused by the positive emotions they experience. The purpose of the current paper was to

test this following question: In the context of everyday life, do people who regularly prioritize positivity, as exemplified by how they make decisions about how to spend their time or organize their days, actually feel happier? We call this individual difference, *prioritizing positivity*.

Some indirect empirical evidence supports the idea that prioritizing positivity is an effective approach to pursuing happiness. The integrative model of sustainable happiness (Lyubomirsky, Sheldon, & Schkade, 2005), in which a genetic set point, circumstances, and intentional activities comprise a person's chronic level of happiness, suggests that engaging in pleasant activities may be the most effective route to increasing happiness. Indeed, the results of many positive psychology interventions provide evidence that engaging in certain activities may make a difference. The results of interventions, like writing gratitude letters, engaging in acts of kindness, and learning how to meditate, reveal that incorporating pleasant activities into one's life reliably yields increases in happiness (for a review on positive interventions, see Parks & Biswas-Diener, in press). In addition, an effective strategy to increase positive affect among individuals suffering from depression is to schedule pleasant events, like playing with pets, into everyday life (Lewinsohn, Sullivan, & Grosscup, 1982). In summary, there is reason to believe that people who prioritize positivity by habitually taking into account their potential happiness when organizing their everyday lives may be most successful at achieving happiness.

The three studies reported in this paper were designed to meet three key aims. First, we examined the psychometric properties of a new scale designed to measure the individual difference, *prioritizing positivity*. Second, we examined whether prioritizing

positivity predicted beneficial features of mental health. Third, we investigated prioritizing positivity's implications for interpersonal behavior, particularly with regard to engaging in a behavior that may elicit pleasant feelings in others.

Study 1: Scale Development of Prioritizing Positivity

The purpose of the first study was to develop a scale to measure prioritizing positivity, test its factor structure and reliability, and establish its convergent and discriminant validity. We hypothesized that prioritizing positivity would be modestly positively associated with constructs that tapped into either a valuation of positive emotional experiences or the pursuit of them. This included constructs such as hedonism (Schwarz, 1992), which reflects the extent to which people consider pleasure (e.g. sex, leisure) to be important in life, ideal positive affect (Tsai, Knutson, & Fung, 2006), which refers to the extent to which people ideally want to feel pleasant emotions in their everyday lives, and excitement-seeking, a tendency to pursue thrilling experiences (Costa & McCrae, 1992). We also hypothesized that prioritizing positivity may be positively associated with the ability to savor, or make the most out of pleasant experiences (Bryant, 2003). Among the Big Five dimensions of personality (Costa & McCrae, 1992), the two we hypothesized might be associated with prioritizing positivity, because of their positive and negative emotional core, were extraversion and neuroticism. We did not anticipate that prioritizing positivity would be associated with the other three dimensions of personality, including agreeableness, openness to experience, and conscientiousness. In addition, we did not predict that prioritizing positivity would be associated with impulsivity. In summary, we designed Study 1 with the following research question and hypothesis in mind:

R1: What is the factor structure of prioritizing positivity?

H1: Prioritizing positivity is a new construct, not redundant with other conceptually-related constructs.

Methods

Participants. Two-hundred and sixty-six participants were recruited for study participation in exchange for undergraduate course credit ($n = 222$) or through a university-wide email sent to faculty, staff, and students for the chance to win one of two \$50 gift cards ($n=44$). Seventy-nine participants failed a preliminary check designed to verify that they were reading and attending to study instructions (Oppenheimer, Meyvis, & Davidenko, 2009) and were omitted from all analyses. The remaining sample consisted of 187 participants (74% female). The racial make-up of the sample was Caucasian ($n = 127$), African-American ($n = 28$), Hispanic ($n = 11$), Asian ($n = 15$), Native American ($n = 2$), and Other ($n = 4$). Participants ranged in age from 17 to 52, with a mean age of 19 ($SD = 3.12$).

Measures and Procedure.

Participants completed a series of questionnaires online.

Preliminary Item Selection Procedure for Prioritizing Positivity scale. We began with a pool of 29 items that were intended to measure two constructs: valuing positivity and prioritizing positivity. (At the time of data collection for Study 1, Mauss and colleagues' (2011) measure of valuing happiness to an extreme had not yet been published.) Participants were given the following instructions: "We consider positive emotions to include amusement, awe, excitement, gratitude, hope, interest, joy, love, pride, serenity, and contentment. Using the scale below, please select a response from 1 to 9." Ratings were made using the following scale: 1 = *Disagree Strongly*, 2 = *Disagree*

Mostly, 3 = *Disagree Somewhat*, 4 = *Disagree Slightly*, 5 = *Neither Disagree or Agree*, 6 = *Agree Slightly*, 7 = *Agree Somewhat*, 8 = *Agree Mostly*, 9 = *Agree Strongly*. Frequency distributions for our 29 potential items revealed that 22 of the items were extremely skewed with low variability. Approximately 75% of the sample endorsed the two most extreme response options (i.e., 8 = *Agree Mostly* and 9 = *Agree Strongly*) for these 22 items. The average standard deviation for these items was 1.2 and the modal response for all of them was either the most extreme or the second most extreme response option. In contrast, the remaining seven items exhibited more variability and were more normally distributed. The average standard deviation for these seven items was 1.6, with a modal response of approximately 7 (i.e., “Agree somewhat”) and with 75% of the sample endorsing response options that ranged from 5-9. Examination of the content for these two groups revealed that the lower variability items tended to involve valuing positivity (e.g., “I believe feeling good is worthwhile”; “I think experiencing positive emotions is productive”) whereas the higher variability items tended to be more behavioral and assess how participants prioritize and seek out pleasant activities in their lives (e.g., “What I decide to do with my time outside of work is influenced by how much I might experience positive emotions.”; “I structure my day to maximize my happiness.”). Based on these data, we decided that the more abstract, low-variability items that reflected valuing positivity did not meaningfully discriminate among participants. We thus removed these items from consideration, and turned our attention to the measurement of prioritizing positivity with the remaining seven items.

Hedonism. The Hedonism subscale assesses the importance placed upon experiencing three different types of life pleasures (i.e., “Enjoying Life (enjoying food,

sex, leisure, etc.)”, “Self-indulgent (doing pleasant things)” and “Pleasure (gratification of desires)” Schwarz, 1992). Participants indicated the importance of these three life pleasures on an 8-point scale (-1 = *Opposed to my values*, 7 = *Of supreme importance*; $\alpha = .64$).

Affect Valuation Inventory. On the Affect Valuation Inventory (AVI, Tsai, Knutson, & Fung, 2006) participants indicated their frequency of wanting to feel various affective states (ideal affect), as well as their actual affective states (actual affect), on a 5-point scale (1 = *Never*, 5 = *All the time*). Thirty items measured ideal affect (“Over the course of a typical week, I would IDEALLY like to feel...”) and 30 items measured actual affect (“Over the course of typical week, I ACTUALLY feel...”). Of particular interest for this study were the three positive octants of the affective circumplex: the Ideal HAP (high-arousal positive affect) Octant ($\alpha = .82$), the Ideal Positive Octant ($\alpha = .66$), and the Ideal LAP (low-arousal positive affect) Octant ($\alpha = .77$).

Excitement-Seeking. The Excitement-Seeking scale assesses the tendency to enjoy and pursue exciting experiences (Costa & McCrae, 1992). Participants indicated on a 5-point scale (1 = *Extremely uncharacteristic*, 5 = *Extremely characteristic*) the extent to which 8 items, including “I often crave excitement” and “I have sometimes done things just for ‘kicks’ or ‘thrills’, ” are characteristic of them. ($\alpha = .71$)

Impulsivity. The Impulsivity scale assesses the tendency to act on urges without much caution (Costa & McCrae, 1992). Participants indicated on a 5-point scale (1 = *Extremely uncharacteristic*, 5 = *Extremely characteristic*) the extent to which 8 items, including “Sometimes I do things on impulse that I later regret” and “When I am having

my favorite foods, I tend to eat too much”, accurately characterize their behavior. ($\alpha = .69$).

Savoring. The Savoring Beliefs Inventory (Bryant, 2003) assesses the tendency to enjoy pleasant experiences in the present (*savoring the present*), pleasantly anticipate upcoming positive events (*savoring the future*), and reminisce about past pleasant experiences (*savoring the past*). Participants indicated their agreement or disagreement on a 7-point scale from 0 (*Strongly disagree*) to 6 (*Strongly agree*) with 24 items, including “I enjoy looking back on happy times,” “I find it easy to enjoy myself when I want to,” and “I can enjoy pleasant events in my mind before they actually occur”. We computed the overall mean of savoring ($\alpha = .93$), as well as the following subscales: *savoring the past* ($\alpha = .86$), *savoring the present* ($\alpha = .86$), and *savoring the future* ($\alpha = .87$).

Big Five Inventory. The Big Five Inventory assesses the five major dimensions of personality: extraversion, neuroticism, openness, agreeableness, and conscientiousness (Benet-Martinez & John, 1998). Participants indicated their agreement or disagreement on a 5-point scale (1= *Disagree strongly*, 5= *Agree strongly*) with 44 items divided into 5 subscales: *extraversion* (sociability/assertiveness), including “I see myself as someone who is talkative” ($\alpha = .85$), *neuroticism* (emotional instability), including, “I see myself as someone who gets nervous easily” ($\alpha = .85$), *openness* (intellectual curiosity/novelty-seeking), including “I see myself as someone who is curious about many different things” ($\alpha = .83$), *agreeableness* (cooperativeness/trustworthiness), including “I see myself as someone who is helpful and unselfish with others” ($\alpha = .81$), and *conscientiousness*

(dependability/orderliness), including “I see myself as someone who is a reliable worker” ($\alpha = .84$).

Results

Exploratory factor analysis of Prioritizing Positivity scale.

Of the seven items that comprised the preliminary version of the prioritizing positivity scale, four of the items were negatively skewed (albeit markedly less skewed than the lower variability items). Consistent with recommendations regarding how to meet univariate normality assumptions in structural equation models (Kline, 1998), these items were transformed by taking their square root. We then conducted an exploratory factor analysis to identify common factors among the seven items. Analyses were conducted in Mplus (version 6.1; Muthén & Muthén, 2010), using maximum likelihood estimation.

The scree plot clearly indicated a one-factor solution. The largest eigenvalue was approximately 3.4; the second-largest eigenvalue was approximately 1.0 and the remaining five eigenvalues decreased in small increments from this point. Results also revealed that one item, “What I decide to do next at work is influenced by how much I might experience positive emotions,” created problems for model estimation. These problems varied by rotation method, but included negative residual variance for this item (Quartimin, Oblimin, and Crawford rotations) and lack of rotation identification (Geomin rotation). We reasoned that this item was sufficiently extreme that it might be influenced by factors unrelated to our construct of interest, such as how flexibly the respondent’s work could be structured, personal work ethic, etc. Accordingly, we removed this item

and re-ran the exploratory factor analysis. This adjustment resolved the model estimation difficulties.

The scree plot for the remaining six items also suggested a one-factor solution. The largest eigenvalue was 3.02; the second-largest was 0.90. Omnibus tests of model fit indicated that a one-factor model produced an acceptable fit for the data (RMSEA = 0.068, 90% CI = 0.00 – 0.12, CFI = 0.97, $\chi^2 = 16.8$, $df = 9$, $p = 0.05$). Factor loadings for the one-factor model ranged from 0.45 to 0.76. The two-factor model fit better (RMSEA = 0.00, 90% CI = 0.00 – 0.07, CFI = 1.00), however this model produced an uninterpretable pattern of factor loadings, whereby three items loaded weakly and equivalently on both factors, and two remaining items loaded strongly on the first factor and the third remaining item loaded strongly on the second factor. This pattern of factor loadings was not consistent with theory; we suspected that the second model was overfitting the model to the data and exploiting unique features of the sample to produce good model fit (Hawkins, 2004). Accordingly, we selected the one-factor solution for our data.

Item means, standard deviations, and standardized factor loadings for the six-item, single-factor version of the measure are presented in Table 1. Cronbach's coefficient alpha for these six items was 0.78.

Convergent and discriminant validity.

The correlations between prioritizing positivity and other measures are presented in Table 2.

As hypothesized, prioritizing positivity was positively correlated with hedonism ($r = .19$, $p < .01$), ideal positive affect ($r = .16$, $p < .05$), excitement-seeking ($r = .22$, $p <$

.01), all variables that share some conceptual overlap with prioritizing positivity, because they tap into either the importance placed upon pleasant experience or the pursuit of it. Surprisingly, prioritizing positivity did not significantly correlate with Ideal HAP Affect, or Ideal LAP Affect, although the direction of the correlations was as predicted. Additionally, prioritizing positivity was positively correlated with overall savoring ($r = .45, p < .001$), and each savoring subscale, including savoring the present ($r = .37, p < .001$), savoring the future ($r = .39, p < .001$), and savoring the past ($r = .44, p < .001$), suggesting that people who prioritize positivity tend to be people who are able to make the most of pleasant experiences—past, present, and future. Further, as predicted, prioritizing positivity predicted higher levels of extraversion ($r = .22, p < .05$) and lower levels of neuroticism ($r = -.21, p < .05$). Nonetheless, the magnitude of these correlations was small to moderate, indicating that prioritizing positivity is not identical to any of these other tendencies.

Also as expected, there was no relationship between prioritizing positivity and impulsivity ($r = -.04$), indicating that people who prioritize positivity are not necessarily hasty or reckless in their approach. Further, as predicted, there was no relationship between prioritizing positivity and openness to experience ($r = .13$). Surprisingly, prioritizing positivity predicted higher levels of conscientiousness ($r = .23, p < .05$) and agreeableness ($r = .24, p < .05$). Although the magnitude of these correlations were small, they suggest that people who prioritize positivity tend to be careful and orderly as well as friendly.

Discussion

The results from Study 1 suggest that the prioritizing positivity scale is composed of a single latent factor, and that the reliability of the scale is satisfactory. Interestingly, the item reflecting whether or not individuals take into account their positive emotions when deciding what to do next at work was problematic, suggesting that the construct, prioritizing positivity, may not involve indiscriminately prioritizing positive emotional experiences.

Results from Study 1 also provided support for our first hypothesis, which posited that prioritizing positivity reflected a new construct in the literature, and was related to conceptually-relevant variables, such as hedonism and ideal positive affect, and was not associated with variables like impulsivity and openness to experience. One shortcoming of Study 1 is that we were not able to administer the Valuing Happiness scale, a measure of the extent to which people excessively value happiness (Mauss, et al., 2011), because it was not available at the time of data collection. We remedy this limitation in Study 2.

Study 2: Replication of the Factor Structure of Prioritizing Positivity and Charting its Unique Consequences for Emotions and Mental Health

Study 2 had five objectives. First, we aimed to replicate our findings regarding the factor structure of prioritizing positivity in a new, more diverse sample, with individuals ranging from young to late adulthood. Second, we were interested in testing whether prioritizing positivity predicted a variety of mental health consequences, ranging from more frequent positive emotions and higher life satisfaction to less frequent negative emotions and fewer depressive symptoms. Given that past literature has shown that valuing happiness to an extreme predicts negative mental health consequences, we examined the scales for prioritizing positivity and valuing happiness in tandem,

predicting that prioritizing positivity would predict beneficial mental health consequences, whereas valuing happiness to an extreme would do the opposite.

Third, assuming that prioritizing positivity leads to more positive emotions, we also hypothesized that prioritizing positivity would ultimately predict a host of psychological and social resources, as mediated by positive emotionality. An example of a psychological resource is resilience, or the ability to bounce back from adversity, whereas a social resource is a supportive social network (Fredrickson, 2013). In Study 2, we tested whether prioritizing positivity predicted a variety of personal resources (self-compassion, resilience, mindfulness, positive relations with others, and illness symptoms), and if so, whether these links were mediated by more frequent experiences of positive emotions.

Fourth, to provide ecological validity to the proposed link between prioritizing positivity and positive emotions, we hypothesized that people higher in prioritizing positivity would experience more positive emotions in the context of a variety of everyday activities. To test this idea, we used the Event Reconstruction Method (Schwarz, Kahneman, & Xu, 2009), which asks participants to think of the last time they engaged in a variety of behaviors, and then to report the extent to which they experienced positive and negative emotions during that activity. As part of a larger study, we asked participants to report on a variety of behaviors. Three have an empirical track record for eliciting positive emotions in everyday life (Catalino & Fredrickson, 2011): *helping*, *learning something new* and *exercising*. We also included two that, at face value, are enjoyable activities: *sexual relations* and *hugging*. The two neutral behaviors we included were *getting ready* and *commuting*. Fifth, we explored whether prioritizing

positivity might intensify individuals' positive emotional responses to the assessed pleasant behaviors. Given that people high in prioritizing positivity seek out positive emotional experiences as part of their day-to-day lives, they may be more motivated to "lean into" or savor these pleasant events, and thus experience bigger "boosts" of positive emotions. Indeed, the moderate correlation between prioritizing positivity and savoring found in Study 1 suggests this may be plausible. In summary, Study 2 explored the following five hypotheses:

H1: The factor structure of the 6-item Prioritizing Positivity Scale is unidimensional.

H2: Prioritizing positivity has beneficial mental health consequences (more positive emotions, fewer negative emotions, more satisfaction with life, less depressive symptomology, more flourishing) whereas valuing happiness to an extreme does not.

H3: Prioritizing positivity predicts higher levels of various personal and social resources, as mediated by more frequent experiences of positive emotions.

H4: Prioritizing positivity predicts higher levels of positive emotionality during a variety of everyday behaviors, both neutral and pleasant.

H5: Prioritizing positivity predicts higher positive emotional reactivity when engaging in pleasant behaviors.

Methods

Participants. The sample consisted of 235 community-dwelling adults who responded to a request to participate in a research project on reactions to everyday events. Participants in this sample were specifically recruited to represent young adulthood (age 21-34, $n = 99$), middle adulthood (age 35-64, $n = 101$), and later adulthood (age 65+, $n = 35$). Unlike Study 1, in which we used a one-phase instruction check, we used a two-

phase instruction check, in which participants are given a second chance to pass the check if they fail the first time. Only two participants (both in the young adult sample) failed the two-phase instruction manipulation check, resulting in a final sample of 233. Approximately 76% of the sample ($n = 177$) was female. The racial make-up of the sample was Caucasian ($n = 189$), African-American ($n = 19$), Asian ($n = 18$), and Other ($n = 4$). Three individuals did not report their race.

Procedure. Participants were recruited via a university-wide e-mail, Craigslist, and referrals from friends or relatives. Within a period of approximately 24 hours, they completed two separate online surveys in exchange for \$20.00. One survey was comprised of a series of questionnaires and the other survey was comprised of the Event Reconstruction Method (ERM).

Materials.

Prioritizing Positivity and Valuing Happiness.

Prioritizing Positivity. The Prioritizing Positivity scale measures the tendency to seek out positive emotional experiences on a day-to-day basis when making decisions about how to organize day-to-day life. Participants indicated their agreement or disagreement on a 9-point scale (1 = *Disagree Strongly*, 9 = *Agree Strongly*) with 6 items (See Appendix for complete version of the measure) ($\alpha = .84$). (Because we aimed to replicate the factor structure of prioritizing positivity in Study 2, we also administered the seventh item of the preliminary version of the prioritizing positivity scale to confirm that the issues this item created in the first sample remained in this sample.)

Valuing Happiness. The Valuing Happiness scale measures the tendency to value happiness to an extreme degree (Mauss et al., 2011). Participants indicated their

agreement or disagreement on a 7-point scale (1 = *Strongly Disagree*, 7 = *Strongly Agree*) with 7 items, including: “How happy I am at any given moment says a lot about how worthwhile my life is,” “If I don’t feel happy, maybe there is something wrong with me,” “I value things in life only to the extent that they influence my personal happiness,” “I would like to be happier than I generally am,” “Feeling happy is extremely important to me,” “I am concerned about my happiness even when I feel happy,” and “To have a meaningful life, I need to feel happy most of the time” ($\alpha = .74$).

Well-Being Scales.

Modified Differential Emotions Scale (mDES). The modified Differential Emotions Scale (mDES) measures the frequency with which people experienced positive and negative emotions over the past two weeks (Fredrickson, Tugade, Waugh, & Larkin, 2003; Fredrickson, 2013). Participants indicated their frequency of experience on a 5-point scale (0 = *Not at all*, 4 = *Most of the time*) for 10 positive emotions, including amusement, awe, contentment, gratitude, hope, inspiration, interest, joy, love, and pride ($\alpha = .93$) and 9 negative emotions, including anger, shame, fear, disgust, embarrassment, guilt, sadness, contempt, and stress ($\alpha = .90$).

Satisfaction with Life Scale. The Satisfaction with Life Scale (SWLS) measures the extent to which people judge their lives to be satisfactory (Diener, Emmons, Larsen, & Griffin, 1985). Participants indicated their agreement or disagreement on a 7-point scale (1 = *Strongly Disagree*, 7 = *Strongly Agree*) with 5 items, including “The conditions of my life are excellent” and “I am satisfied with my life” ($\alpha = .91$).

Mental Health Continuum-Short Form. The Mental Health Continuum—Short Form measures flourishing, a combination of emotional, psychological and social well-

being (Keyes, 2009). Participants indicated the frequency of their experience on a 6-point scale (0 = *Never*, 5 = *Everyday*) with 14 items divided into three subscales: emotional well-being, including “In the past week, how often did you feel happy?”, psychological well-being, including, “In the past week, how often did you feel good at managing the responsibilities of your daily life?”, and social well-being, including, “In the past week, how often did you feel that you belonged to a community/social group?”. Following Keyes (2009), we computed the mean of all 14 items ($\alpha = .94$) to reflect the degree to which participants report signs of flourishing.

Center for Epidemiological Studies-Depression. The Center for Epidemiological Studies—Depression (CESD) measures depressive symptoms (Radloff, 1977).

Participants indicated the frequency with which they experienced a variety of depressive symptoms during the past week on a 4-point scale (0 = *Rarely or none of the time—less than 1 day*, 3 = *All of the time—5-7 days*) with 20 items, including “I couldn’t get going” and “I felt depressed” ($\alpha = .91$).

Personal Resources.

Self-Compassion. The Self-Compassion Scale measures the tendency to be compassionate towards the self (Neff, 2003). Twenty-six items assessed three aspects of self-compassion: *self-kindness* (being kind and caring to oneself particularly during times of suffering, e.g. “I try to be loving towards myself when I’m feeling emotional pain”), *mindfulness* (a nonjudgmental, receptive mind-state/orientation, e.g. “When something painful happens I try to take a balanced view of the situation”), and *common humanity* (recognition that pain and feelings of inadequacy are part of the human experience, e.g. “When I’m down and out, I remind myself that there are lots of other people in the world

feeling like I am”). Participants indicated the frequency with which they engage in self-compassion on a 5-point scale (1 = *Almost Never*, 5 = *Almost Always*). We computed the mean of all 26 items ($\alpha = .94$) to represent overall self-compassion.

Ego-Resilience. The ego-resilience scale measures the tendency to adapt to continual shifts in the environment and bounce back from adversity (Block & Kremen, 1996). Participants indicated on a 4-point scale (1 = *Does not apply at all*, 4 = *Applies very strongly*) the extent to which 14 items apply to them, including “I enjoy dealing with new and unusual situations” and “I get over my anger at someone reasonably quickly” ($\alpha = .80$).

Carolina Empirically-Derived Mindfulness Inventory. The Carolina Empirically-Derived Mindfulness Inventory (CEDMI) measures the tendency to be mindful, or present-focused in a non-judgmental, accepting manner (Coffey, Hartman, & Fredrickson, 2010) with items drawn from both the Five Factor Mindfulness Questionnaire (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006) and the Difficulties in Emotion Regulation Scale (Gratz & Roemer, 2004). Participants indicated their agreement or disagreement on 5-point scale from 1 (*Never or very rarely true*) to 5 (*Very often or always true*) with 8 items representing present-centered attention (e.g., “When I take a shower or bath, I stay alert to the sensations of water on my body”) ($\alpha = .85$) and 14 items representing an accepting orientation towards experience (e.g., “When I’m upset, I become angry with myself for feeling that way” (reverse-coded)) ($\alpha = .94$).

Positive Relations with Others. This subscale is drawn from a psychological well-being scale and assesses the presence of satisfying, interpersonal connections (Ryff, 1989). Participants indicated their agreement or disagreement on a 5-point scale from 1

(*Strongly disagree*) to 5 (*Strongly agree*) with 7 items including “I know that I can trust my friends, and they know they can trust me” ($\alpha = .83$).

Illness Symptoms. This self-report scale measures 13 symptoms of poor health, including headaches, stiff muscles, nausea, and coughing (Elliot & Sheldon, 1998). Participants used a 9-point scale from 0 (*Not at all*) to 8 (*Very frequently*) to report the frequency of each symptom experienced over the past two weeks ($\alpha = .85$).

Event Reconstruction Method. The event reconstruction method (ERM; Schwarz, Kahneman, & Xu, 2010) was designed to capture emotional reactions to activities that might not occur everyday (e.g., sexual relations), and thus may be difficult to assess using techniques like Ecological Momentary Assessment (EMA, Stone, Shiffman, DeVries, 1999) or the Day Reconstruction Method (DRM, Kahneman, Krueger, Schkade, Schwarz, & Stone, 2004). Participants were asked to think of the last time they engaged in specific neutral activities (i.e., *getting ready* and *commuting*) and pleasant activities (i.e., *helping*, *learning something new*, *exercising*, *engaging in sexual relations*, and *hugging someone*), in addition to other activities not relevant to the current paper. These irrelevant activities were health-relevant behaviors (e.g. *eating a nutritious meal*, *eating an unhealthy meal*, *drinking alcohol*) that were included, as part of a larger study, for the purpose of testing a different set of hypotheses. Participants were then asked briefly to describe the event, and rate the degree to which they experienced positive and negative emotions during it using the mDES, as described above, except participants indicated emotional intensity, rather than frequency, during the activity on a 5-point scale from 0 (*not at all*) to 4 (*extremely*). We computed means of mDES responses within item

valence to create composite positive and negative emotions variables for each activity (positive emotions $\alpha = .93$; negative emotions $\alpha = .90$).

Results

Confirmatory factor analysis and generalizability analyses.

As a first step, we tested our six-item, single factor model in the full sample. The model produced a good fit for the data, with an RMSEA of 0.04 (90% CI = 0.00 – 0.09, CFI = 0.99). Standardized factor loadings ranged from 0.57 – 0.79. Cronbach's coefficient alpha in this sample was 0.81.

As a second step, we added the seventh item (“What I decide to do next at work is influenced by how much I might experience positive emotions,”) back into the model to confirm that the problems this item created in our first sample did not reflect factors unique to a largely student sample. Adding this item to the model substantially worsened model fit (RMSEA = 0.098, CFI = 0.93, $\chi^2 = 45.6$, $df = 14$, $p < 0.0001$). Additionally, this item exhibited the lowest factor loading (*standardized* $\lambda = 0.43$). We interpreted these findings as support for our original decision to remove this item from the scale, and returned to the six-item version of the measure.

We then conducted a multiple-groups analysis to examine whether the model fit equivalently in all three age groups. We used the “mean structure” multiple group approach, which specifies that means and factor loadings for each question are held equal across all groups. Despite this restriction, the model produced an acceptable fit for the data (RMSEA = 0.077, 90% CI = 0.03 – 0.115, CFI = 0.95, $\chi^2 = 68.4$, $df = 47$, $p = 0.02$), indicating that the measure does not function differently across the range of ages sampled

here. An ANOVA confirmed that groups did not significantly differ on their mean prioritizing positivity score ($F_{2, 230} = 0.65, p = 0.52$).

As exploratory analyses, we also examined whether minority status or gender were related to prioritizing positivity. These analyses revealed that while prioritizing positivity was not related to self-identifying as a member of a minority racial group ($t = 1.13, df = 228, p = 0.26$), it was related to gender ($t = 2.54, df = 231, p = 0.01$), with women reporting significantly higher scores than men. The average prioritizing positivity score for women in the sample was 6.66 ($SD = 1.34$), whereas the average score for males was 6.14 ($SD = 1.28$).

Differential mental health outcomes for prioritizing positivity versus valuing happiness to an extreme degree.

At first glance, prioritizing positivity appears conceptually similar to valuing happiness. We hypothesize, however, that they are distinct constructs, and furthermore propose that whereas prioritizing positivity predicts higher well-being and lower distress, valuing happiness predicts lower well-being and higher distress.

The relationships among prioritizing positivity, valuing happiness, and a variety of well-being indicators were examined through multiple regression models in which either prioritizing positivity or valuing happiness predicted the well-being indicator. Because prioritizing positivity and gender were modestly correlated (point-biserial $r = -.17, p < .01$), and because valuing happiness and age were modestly correlated ($r = -.17, p < .01$), we controlled for age and gender in all models. Results are presented in Table 3. As expected, prioritizing positivity was positively associated with positive emotionality ($b^* = .44, p < .001$), satisfaction with life ($b^* = .37, p < .001$), and flourishing ($b^* = .38, p$

< .001), and negatively associated with negative emotionality ($b^* = -.20, p < .01$) and depression² ($b^* = -.29, p < .001$). In contrast, and consistent with past literature (e.g. Mauss et al., 2011), valuing happiness was negatively associated with positive emotionality ($b^* = -.14, p < .05$), satisfaction with life ($b^* = -.23, p < .001$), and flourishing ($b^* = -.24, p < .001$), and positively associated with negative emotionality ($b^* = .16, p < .01$) and depression ($b^* = .26, p < .001$). Figures 1 and 2 depict the regression of positive emotionality on prioritizing positivity and valuing happiness, respectively.

In a second set of analyses, we re-ran the models described above, however this time we controlled for valuing happiness when examining the impact of prioritizing positivity on well-being, and controlled for prioritizing positivity when examining the impact of valuing happiness on well-being. Prioritizing positivity and valuing happiness were positively correlated ($r = .25, p < .001$). As the 4th and 5th columns of Table 3 reveal, when prioritizing positivity and valuing happiness are simultaneously included as predictors of well-being, the beneficial effects of prioritizing positivity are enhanced, as are the harmful effects of valuing happiness. These results suggest that prioritizing positivity, although chiefly a positive trait, may have a bit of a “dark side” that is captured by its shared variance with the valuing happiness measure. When this dark side is partialled out, our scale even more strongly reveals the beneficial effects of making positivity a priority. Likewise, valuing happiness may have a bit of an “upside” that is captured by its shared variance with the prioritizing positivity measure, and when this upside is partialled out, the scale created by Mauss and colleagues (2011) even more strongly reveals the harmful effects of excessively valuing positivity.

Positive Emotions mediate the link between prioritizing positivity and

resources.

Given the link between prioritizing positivity and experiencing more frequent positive emotions, we hypothesized that prioritizing positivity would predict resources, and that experiences of positive emotions would mediate these relationships. To test this hypothesis, we first examined whether prioritizing positivity predicted resources, controlling for age and gender. Five separate multiple regression models indicated that prioritizing positivity significantly predicted higher self-compassion ($b^* = .26, p < .001$), resilience ($b^* = .38, p < .001$), mindfulness ($b^* = .21, p < .001$), positive relations with others ($b^* = .32, p < .001$) and fewer illness symptoms³ ($b^* = -.13, p < .05$), respectively. Second, as we reported above, prioritizing positivity significantly predicted more positive emotions ($b^* = .44, p < .001$), controlling for age and gender. Third, we tested whether the effects of prioritizing positivity on resources, controlling for age and gender, were significantly mediated by its effect on positive emotions, using a bootstrapping approach with a resampling size of 5000 (Preacher & Hayes, 2008). As Table 4 reveals, positive emotions significantly mediated the relation between prioritizing positivity and 4 of the 5 resources assessed (i.e., self-compassion, resilience, mindfulness, and positive relations with others). In particular, there was evidence for full mediation for self-compassion, mindfulness and positive relations with others and partial mediation for ego-resilience. We did not find that positive emotions mediated the relation between prioritizing positivity and illness symptoms.

Prioritizing positivity predicts more positive emotionality during a variety of everyday behaviors and some evidence exists for greater positive emotional reactivity

We used multilevel modeling to examine the impact that prioritizing positivity might have on participants' positive emotions⁴ during neutral and pleasant activities. In these models, different activities (both neutral and pleasant) were nested within individual. We examined five possible pleasant activities (exercising, having sex, learning something new, helping someone, and hugging someone) and two neutral behaviors (getting ready, commuting to work). Dummy-coding variables were constructed to compare each pleasant activity to the two neutral activities combined. Participants' composite positive emotion ratings (created by averaging the ten positive emotions assessed for each activity) were predicted from the dummy-coded activity variable, their mean-centered score on the prioritizing positivity scale, and the interaction of activity and prioritizing positivity. The significance of prioritizing positivity, as a main effect, addressed H4, or the possibility that participants high in prioritizing positivity experience more positive emotions while engaging in everyday behaviors. The interaction term examined H5, or the possibility that participants' prioritizing positivity scores may especially influence positive emotion yield during pleasant activities, above and beyond its general impact during everyday activities. Gender and mean-centered age were included as covariates. The model included a random intercept and random slope for activity, to model individual differences in participants' proclivities to experience positive emotion and their emotional responses to activities, in addition to the overarching effects that we hypothesized.

The sample size for these analyses was slightly smaller ($n=207$) than that reported for the analyses reported above, because not all participants completed the questionnaire featuring the Event Reconstruction Method. Cook's distance and Predicted Residual

Sums of Squares (PRESS) scores indicated that two participants produced large residuals and heavily influenced the model. These two participants were omitted from the sample, resulting in a sample of 205 (23% male, 17% racial minority, mean age = 43.6).⁵

Results revealed significant main effects in each model for our dummy-coded activity variables, indicating that, not surprisingly, participants consistently reported more positive emotions during the pleasant activities than during neutral activities. As hypothesized (H4), the main effects for prioritizing positivity were positive and significant in each model, indicating that participants with higher prioritizing positivity reported more positive emotions, on average, for both neutral and pleasant activities. (The exception to this was “helping someone,” as discussed below.) Interestingly, prioritizing positivity significantly interacted with activity for three pleasant activities (sexual activity, hugging, and helping someone). Also as hypothesized (H5), participants who scored high on prioritizing positivity experienced a particularly pronounced boost in positive emotions for sexual activity and hugging. Contrary to expectations, the effect for helping someone else was in the reverse direction: participants high on prioritizing positivity experienced *less* of a boost in positive emotions from helping someone else than did participants low on prioritizing positivity. Prioritizing positivity did not influence the positive emotion yield for the remaining pleasant behaviors (i.e., exercising and learning something new). Table 5 presents the results from these models.

Discussion

In a new sample, featuring more diversity in age, we confirmed that the underlying factor structure of prioritizing positivity was unidimensional. Interestingly, the means for some scale items were lower in Study 2, relative to Study 1, which was

comprised predominantly of full-time college students. In particular, the mean of the item “What I decide to do with my time outside of work is influenced by how much I might experience positive emotions” was 7.5 in Study 1 and 6.6 in Study 2. We speculate that a predominantly college-sample likely does not face the demands of running a household or caring for children, and thus may have more flexibility in how they spend their time outside of work.

Next, we also found support for the hypothesis that prioritizing positivity positively predicts a host of beneficial mental health outcomes, whereas valuing happiness does the reverse. Although the labels of these constructs imply that they may operate similarly, psychologically, prioritizing positivity and valuing happiness appear to have opposing associations with mental health. These results suggest that there may be at least one effective way to pursue happiness: by prioritizing positivity, or taking into account one’s anticipated positivity when making decisions about how to organize one’s days. Further, this research suggests that prioritizing positivity and valuing happiness may each act as potential suppressor variables for each other. That is, although prioritizing positivity may reflect chiefly a positive trait, it may have a bit of a “dark side” that is captured by the small degree of conceptual overlap it shares with the valuing happiness measure.

We also found evidence to support the hypothesis that prioritizing positivity predicts more resources, and that this effect is mediated by more frequent experiences of positive emotions. That is, prioritizing positivity appears to be an individual difference that not only offers access to more frequent experiences of pleasant states, but also appears to put people on the fast-track towards building a variety of resources, including

self-compassion, ego-resilience, mindfulness, and positive relations with others. We did not find significant mediation effects for the link between prioritizing positivity and illness symptoms, although prioritizing positivity did predict having fewer illness symptoms. A limitation of this set of analyses, we note, is that the design was cross-sectional, preventing us from examining whether prioritizing positivity at one time point predicts greater levels of resources at a time point in the future. As a first step, however, these findings are consistent with the hypothesized predictive and causal relationships. Future research should test this hypothesis with a prospective design.

Further, we found additional, ecological validity for the link between prioritizing positivity and positive emotionality, in the context of everyday events, ranging from learning something new to exercising. In addition, we discovered that people high in prioritizing positivity experience greater positive emotional reactivity when hugging another and when engaging in sexual relations, relative to neutral activities. However, when helping another, people high in prioritizing positivity actually experience less positive emotional reactivity. No significant moderation effects existed for learning something new or exercising.

We speculate that the reason why people high in prioritizing positivity experience a less intense “boost” of positive emotions when helping is because of the nature of the helping behaviors reported. Examination of participants’ descriptions of their helping behavior revealed that the primary form of assistance they offered was listening to others’ problems. It may be that hearing about another’s suffering tempers the positive emotional response of individuals who are particularly keen to experience pleasant events. Whether or not this dampened positive emotional response translates into less

responsiveness within the interaction is a completely independent matter, however, and is not necessarily the case. In addition, we speculate that hugging and engaging in sexual relations may differ from the other pleasant activities in that one of their widely-regarded purposes is to “feel good.” In the psychology literature, the other behaviors (e.g., helping, learning) have been shown to predict positive emotions (e.g. Catalino & Fredrickson, 2011), but to the general population, they are less likely to be construed as “feel good” behaviors. As such, perhaps people high in prioritizing positivity may be more apt to savor these activities (i.e., hugging and having sex), given their more salient promise of emotional rewards.

Study 3: Prioritizing Positivity Predicts Positive Interpersonal Behavior

Thus far, we have shown that prioritizing positivity predicts beneficial outcomes for mental health (e.g. positive emotionality, resilience), but we have yet to discover whether prioritizing positivity may affect behavior that could inspire positive emotions in others. We thought that given the emphasis people high in prioritizing positivity place on experiencing pleasant states themselves, they may be more motivated to engage in actions that may generate positivity in others. The limited work to date exploring the link between the pursuit of happiness and social outcomes has found that trying to feel happier actually makes people feel more lonely. In one study, participants induced to try to make themselves happier while watching a film clip that contained affiliative themes, reported more loneliness afterwards, controlling for baseline levels of positive/negative affect and loneliness (Mauss, Savino, Anderson, Weisbuch, Tamir, & Ludenslager, 2011). These same participants also displayed lower levels of progesterone, a hormonal indicator of social connection (Mauss, et. al., 2011).

To test the idea that prioritizing positivity may affect behavior that could inspire positive emotions in others, we first asked participants to write a thank you-letter. Then, we gave participants an opportunity to send the letter they wrote, a behavior that could reasonably be expected to elicit positive emotions in the recipient and even relational growth, particularly given research on how expressions of gratitude may trigger improvements in relationship quality (Algoe, Fredrickson, & Gable, 2013). Because a variety of individual differences might predict a greater likelihood to send a thank-you letter (e.g. trait positive affect), and also be related to prioritizing positivity, we measured these constructs to rule out alternative explanations. These variables included trait positive affect, extraversion, agreeableness, trait social approach goals (motives for rewarding interpersonal end-states) and (lack of) ambivalence over emotional expressiveness. We conducted the third study to test the following hypothesis:

H1: Given the opportunity to engage in a behavior that could incite pleasant feelings in another person (i.e., sending a thank-you letter) people high in prioritizing positivity will be more likely to do so.

Methods

Participants. Sixty students participated in the study as partial fulfillment of introductory psychology. Approximately 62% of the sample ($n = 37$) were female. The racial make-up of the sample was Caucasian ($n = 40$), African-American ($n = 10$), Hispanic ($n = 4$), Asian ($n = 3$), Native American ($n = 1$) and Other ($n = 2$). Participants ages ranged from 17 to 22, with a mean of 19 ($SD = 1.09$).

Procedure. Participants completed a series of personality questionnaires online. Then, they came to the laboratory, where they were randomly assigned to an

experimental manipulation and engaged in a computer task unrelated to the current study. The experimental manipulation, in which participants were randomly assigned to either read about the benefits of positive emotions or the neuroscience of positive emotions in order to increase prioritizing positivity failed, but nevertheless, we statistically control for the effect of experimental condition in all reported analyses. Next, participants were asked next to write a letter to another person, in which they described a positive emotional experience of their own that resulted from another person's actions. Participants were then informed that, if they wished, they could take the opportunity to email the letter to the person to whom it had been written.

Materials.

Personality Measures.

Prioritizing Positivity. The Prioritizing Positivity scale measures the tendency to seek out positive emotional experiences on a day-to-day basis when making decisions about how to organize daily life. Participants indicated their agreement or disagreement on a 9-point scale (1 = *Disagree Strongly*, 9 = *Agree Strongly*) with 6 items.

Positive Affect. To measure participants' general tendency to experience positive emotions, we used the actual affect items, belonging to the Positive Octants of the affective complex, from the Affect Valuation Inventory (AVI) (Tsai, Knutson, & Fung, 2006). Participants indicated frequency on a 5-point scale (1 = *Never*, 5 = *All the time*) with 10 items, including "Over the course of a typical week, I ACTUALLY feel enthusiastic" ($\alpha = .87$).

Extraversion. To measure extraversion, the tendency to be social and assertive, we used the Extraversion subscale from the Big Five Inventory (Benet-Martinez & John, 1998). Participants indicated agreement or disagreement on a 5-point scale (1 = *Disagree strongly*, 5 = *Agree strongly*), with 8 items, including “I see myself as someone who is outgoing, sociable” ($\alpha = .88$).

Agreeableness. To measure agreeableness, the tendency to be friendly and trustworthy, we used the Agreeableness subscale from the Big Five Inventory (Benet-Martinez & John, 1998). Participants indicated agreement or disagreement on a 5-point scale (1 = *Disagree strongly*, 5 = *Agree strongly*), with 8 items, including “I see myself as someone who is helpful and unselfish with others”.

Social Approach Goals. To measure social approach goals, or motives focused on rewarding interpersonal end-states, we used the approach-relevant items from the Social Goals scale (Gable, 2006). Participants indicated on a 7-point scale (1 = *Not at all true of me*, 7 = *Very true of me*) the extent to which with 4 items, including “I will be trying to enhance the bonding and intimacy in my close relationships this semester,” are characteristic of them ($\alpha = .92$).

Ambivalence over Emotional Expressiveness Questionnaire (AEQ). The Ambivalence over Emotional Expressiveness Questionnaire assesses the tendency to experience conflicting feelings about emotional expression (King & Emmons, 1990). Participants indicate agreement or disagreement on a 7-point scale (1 = *Strongly disagree*, 7 = *Strongly agree*) with 28 items, including “Often I’d like to show others how I feel, but something seems to be holding me back” ($\alpha = .94$).

Results

Hypothesis 1 states that people higher in prioritizing positivity will be more likely to attempt to incite pleasant feelings in others, by sending a thank-you letter to another person. To test this, we used logistic regression to assess whether scores on prioritizing positivity predicted participants' binary behavior of sending the letter or not. As in previous samples, females scored significantly higher on prioritizing positivity ($M=7.32$) than males ($M=6.73$), $t = -2.47, p < .05$. All models controlled for condition and gender. Results revealed that individuals high in prioritizing positivity were more likely to send out their letter ($\text{logit } b = .674, \text{Wald } \chi^2 = 4.14, p < .05$), such that a one-unit increase on the six-item prioritizing positivity scale was associated with being 2.0 times more likely to send the letter. Condition ($\text{logit } b = .499, \text{Wald } \chi^2 = .75, p = .39$) and gender ($\text{logit } b = .562, \text{Wald } \chi^2 = .81, p = .37$) did not significantly predict the likelihood of sending the letter. Figure 3 presents a visual depiction of these results using a median split (used solely for illustrative purposes).

To rule out alternative explanations, we tested whether the result still remained when also controlling for a variety of constructs that could be associated with prioritizing positivity and also predictive of sending a thank-you letter. We examined the following covariates in a series of separate models: positive affect, extraversion, agreeableness, social approach goals, and ambivalence over emotional expressiveness. Each model included prioritizing positivity, condition, gender, and one of the covariates listed above. Prioritizing positivity marginally or significantly predicted sending the letter above and beyond the influence of trait positive affect, extraversion, agreeableness, social approach goals, and ambivalence over emotional expressiveness (values for $\text{logit } b$ ranged from

.6381 to .9665; values for *Wald* χ^2 ranged from 3.46 to 5.96; *p* values ranged from .03 to .06).

Discussion

The results of this study support the hypothesis that people who score high on prioritizing positivity are more likely to engage in a behavior, like sending a thank-you letter, that can reasonably be expected to cause pleasant feelings another. These results remain, even when controlling for personality variables, such as trait positive affect or extraversion. This suggests that the link between prioritizing positivity and sending a thank-you letter cannot be explained by the notion that people high in prioritizing positivity are simply more positive or more extraverted. These results suggest that prioritizing positivity may not only benefit the self, but potentially also those in one's social network.

General Discussion

The sequence of studies presented here investigates whether people can pursue happiness in ways that might actually create happiness, rather than backfire. To that end, we introduced a new construct that we term *prioritizing positivity* and developed a scale to measure it. Prioritizing positivity reflects the extent to which individuals seek out positivity, by virtue of how they make decisions about how to spend their time or organize their days. We carried out the first study to develop and test the psychometric properties of this scale, and produced a six-item measure with a unidimensional structure that replicated in a separate sample. We discovered that prioritizing positivity was positively related to measures that tapped into a valuation or pursuit of pleasant states (e.g. excitement-seeking), but found that prioritizing positivity was distinct. Of note, we

found no association between prioritizing positivity and impulsivity. Thus, people high in prioritizing positivity are not necessarily hasty or careless in their approach to seeking positivity in their daily lives.

Critically, in a second study we discovered evidence that prioritizing positivity predicted a host of beneficial mental health outcomes, ranging from more frequent positive emotions to less depressive symptomology. To provide ecological validity for the link between prioritizing positivity and experiencing positivity, we discovered that, in the context of a variety of everyday events (e.g. exercising) people high in prioritizing positivity report experiencing more positive emotions. Further, we discovered that people high in prioritizing positivity may be at an advantage with respect to the accrual of a host of resources, like self-compassion and ego-resilience, and that these links could be explained by their more frequent experiences of positive emotions. In addition, we found some evidence that prioritizing positivity may affect one's positive emotional reactivity during certain interpersonal behaviors, such as hugging or engaging in sexual relations. Finally, in a final study we found support for the idea that prioritizing positivity may make individuals more likely to attempt to incite pleasant feelings in others by expressing their gratitude to them.

To the best of our knowledge, these findings are the first to suggest that people who regularly seek out positive emotion-eliciting events as they organize their day-to-day lives may be happier. This research indicates that one element of effectively pursuing happiness may involve situation-selection. Many items on the scale (e.g. "What I decide to do with my time outside of work is influenced by how much I might experience positive emotions.") tap into how individuals structure their time or make choices (e.g.

career selection) that have far-reaching implications for the situations they encounter. Astute situation-selection, in turn, may lead to a greater likelihood of experiencing positive emotions, which have a variety of known benefits. The utility of engaging in pleasant activities to increase happiness resonates with others' speculations about potential ways to seek happiness (Kesebir, & Diener, 2008; Gruber, Mauss, & Tamir, 2011; Ford & Mauss, in press) and the evidence reported herein suggests that habitually using anticipated positivity as a touchstone for major and minor life choices predicts greater well-being. Thus, when it comes to designing the structure of everyday life, people high in prioritizing positivity may be particularly good "architects."

Although we discovered evidence to suggest that people who prioritize and seek out positive emotional experiences tend to be happier, it would be misleading not to acknowledge that the pursuit of happiness appears to be a delicate art. When people relate to their happiness in an obsessive way, constantly concerned about their emotional state, happiness may plummet (Mauss, et al., 2011; Ford & Mauss, in press). Further, when people place pressure on themselves to feel happier in the moment within positive contexts, without the ability to alter their situation, this may also give rise to unhappiness (Mauss, et. al. 2011). We note that in prior experimental research on pursuing happiness, participants were confined to the laboratory task, unable to modify their context. If, for instance, participants were able to alter their situation within the laboratory (e.g. watching a film clip of their own choosing), perhaps the aim to feel happy would not have backfired. This speculation merits test.

A boundary condition of the current research may be that people may not always accurately predict which activities will result in happiness. For instance, individuals who

decide to spend their time outside of work acquiring brand new clothes and electronic goods may not actually experience more happiness. Generally speaking, however, people know which activities produce positive emotions, and which do not, although they may not always be accurate about the intensity or the duration of these emotional experiences (Wilson & Gilbert, 2005). Indeed, Wilson and Gilbert state, “humans are adept at predicting whether events are likely to be pleasant or unpleasant. Even a rat can readily learn that pressing one bar will produce a food pellet and another an electric shock and will vote with its paws for the more pleasant option. People know that a root beer will be more pleasant than a root canal.” (p. 131).

In addition, the current paper does not speak fully to the potential costs of prioritizing positivity. In Study 2, for instance, we discovered that people high in prioritizing positivity got less of a positive emotional boost when helping another. Future research should address other potential negative consequences of prioritizing positivity. Further, in the process of considering potential happiness when making decisions about a career or how to structure a day, invariably other dimensions of life become deprioritized. These other dimensions may include prestige, financial success, achievement, and perhaps even a completed household chore-list. Even so, given that some of these things are strongly tied to positivity (e.g. achievement), it is plausible that those who prioritize positivity incorporate achievement-relevant opportunities as the means by which they experience happiness.

We opened this paper by asking whether the pursuit of happiness actually leads to happiness, or whether it backfires, ironically making people feel worse. The answer to this question appears to be “both.” The pursuit of happiness is complex, because there

appear to be both effective and ineffective ways of doing it. This notion that it's not what you do, but the way that you do it, resonates with other research in positive psychology. Replaying a positive life event in one's mind predicts greater well-being, for instance, whereas analyzing a positive life event does the reverse (Lyubomirsky, Sousa, Dickerhoof, 2006). Thus, the act of processing a positive event is not inherently beneficial or detrimental to one's well-being; there are just more and less effective ways of doing it. Another example is the distinction between harmonious and obsessive passions (Vallerand et. al., 2003). Both types of passions are highly enjoyable, but one is intrinsically motivated (harmonious passion) whereas the other is not (obsessive passion). With this twist, having an obsessive passion ironically add more negativity to people's lives.

Future Directions

With regards to future research, it would be interesting to investigate the precursors of prioritizing positivity. Do some cultural, or even biological factors support prioritizing positivity more than others? Further, do certain life experiences make an individual higher in this individual difference? For instance, might a prior episode of depression, a brush with mortality, or potent experiences of positivity, motivate an individual to design a life where potential happiness is a high-priority consideration? Further, might reading about the known benefits of positive emotions be enough to shift a person's level of prioritizing positivity? This last question raises the idea that prioritizing positivity could be translated into an intervention to increase well-being, or is one way self-help works, when it does. The current paper demonstrates that people who already prioritize and seek out positive emotional experiences are happier, but it remains to be

seen whether this individual difference could be adopted by anyone and operate similarly.

In addition, it would be interesting to understand the conditions under which prioritizing positivity may be tightly or loosely connected to experiences of positive emotions. In some preliminary work, we discovered that the strength of the association between prioritizing positivity and positive emotionality depended upon whether or not participants were enrolled in college. Specifically, the link between prioritizing positivity and positive emotionality was weaker (albeit still significantly positive) amongst participants in college, in comparison to participants not in college. We speculate that after college (at least in the U.S.), the responsibility for creating positive events for oneself becomes greater. Thus, being high in prioritizing positivity may be particularly beneficial beyond the college years. In contrast, during college, there are dozens of ready-made opportunities (e.g. sporting events, special interest meetings, parties) to enjoy on a daily basis, and thus, prioritizing positivity may not have as a great a psychological impact.

Conclusion

The current paper suggests there may be at least one straight-forward way people can successfully pursue happiness: by prioritizing positivity. People differ in the extent to which they prioritize positivity when it comes to how they decide to spend their time and make big decisions, and we present a six-item scale to measure this individual difference. Prioritizing positivity predicts important differences in people's emotional experiences and mental health and even their interpersonal behavior. In contrast to the available literature, we provide evidence to suggest that seeking happiness is not inherently self-defeating, and although a delicate art, may be a worthwhile pursuit.

Footnotes

¹Adjusted for reverse-scoring.

²Depression was moderately skewed (skew = 1.22), thus we square-root transformed depression for these analyses. This transformation effectively resolved the skew (skew = .10).

³The illness symptoms variable was moderately skewed (skew = 1.87), thus we square-root transformed illness for these analyses. This transformation effectively resolved the skew (skew = .30).

⁴Participants reported extremely low levels of negative emotion during the activities investigated ($M = 0.28$, $range = 0.16-0.44$), thus we restrict our analyses to examination of the positive emotions participants experienced during these behaviors.

⁵Inclusion of these two participants does not change the pattern of significant findings for the main effect of activity on positive emotion or for the interaction of activity and prioritizing positivity on positive emotion. It does, however, influence the significance of the main effect of prioritizing positivity on positive emotion, such that prioritizing positivity marginally significantly predicts positive emotion when these two participants are included, rather than significantly predicts it.

CHAPTER THREE

POTENTIAL MECHANISMS OF LINK BETWEEN PRIORITIZING POSITIVITY AND WELL-BEING AND RELATIONS TO FUTURE RESOURCES

In the following chapter, I will present two studies that investigate the potential mechanisms of the link between prioritizing positivity and a variety of well-being outcomes. The first study was already introduced in Chapter 2 as Study 3, but I will reintroduce this study for the purpose of testing my third hypothesis, which states that prioritizing positivity will predict people's heightened attention to positive stimuli, relative to neutral stimuli. In the second study in this chapter, I investigated whether prioritizing positivity predicts the extent to which people exert effort to obtain pleasant experiences. This study also tested my fifth hypothesis, which states that prioritizing positivity will prospectively predict people's resources, over time, as mediated by positive emotionality.

Study 3 (reprise): Prioritizing Positivity and Attention to Positive Stimuli

People high in prioritizing positivity seek out positive emotional experiences, by virtue of how they make decisions about how to organize their day-to-day life. Essentially, people high in this individual difference seem more motivated to experience pleasant states, and one way this motivation may manifest is through attention to positive stimuli in the environment. Research in support of the socio-emotion selectivity theory, which argues that goals relevant to emotions and well-being become prioritized with age, suggests this may be the case (Carstensen, Isaacowitz, & Charles, 1992). Indeed, one

study found that older adults (62-94) attended more quickly to positive stimuli (smiling human faces), in comparison to young adults (18-35). To test the hypothesis that people high in prioritizing positivity will be more likely to attend to positive stimuli, I conducted a study in which individuals' attention to positive versus neutral stimuli was measured. To test the possibility that prioritizing positivity affects attention to all types of positive stimuli, I included the non-human stimuli (e.g. landscapes, animals) as well.

Methods

Participants. Sixty students participated in the study as partial fulfillment of introductory psychology. Approximately 62% of the sample ($n = 37$) were female. The racial make-up of the sample was Caucasian ($n = 40$), African-American ($n = 10$), Hispanic ($n = 4$), Asian ($n = 3$), Native American ($n = 1$) and other ($n = 2$). Participants ages ranged from 17 to 22, with a mean of 19 (SD = 1.09).

Procedure. Participants completed a series of personality questionnaires online. Then, they came to the laboratory, where they were randomly assigned to an experimental manipulation to increase people's prioritizing positivity. To that end, participants either read about the benefits of positive emotions or the neuroscience of positive emotions, as well as a passage about prosopagnosia (face-blindness). Next, participants answered reading comprehension questions to ensure they understood the contents of the article and a manipulation check item. Then, participants engaged in a computer task, which involved completing a dot-probe using facial stimuli (Mather & Carstensen, 2003) and International Affective Picture System (IAPS) pictures. First a fixation point was presented in the center of the computer screen. Then a pair of faces (one positive and one neutral version the same face) or a pair of IAPS pictures (one

positive and one neutral) were presented on the left and right side of the screen for a brief amount of time—30ms—(to detect initial orienting) or a long period of time—420ms—(to detect deliberate attention). Next, a star appeared in a location on the screen where one of the images had appeared. Participants reported as quickly as possible (by hitting one of two response keys) which side of the screen the star appeared. Once the participant hit one of the two response keys, the star disappeared, and a probe-detection time was recorded. Lower scores on probe-detection times indicate faster responding. For the facial stimuli, we used 14 pairs of faces. Half of the faces were male and half of the faces were female. We alternated whether the positive version of the face was on the right or left of the screen during the trials, and also whether the star appeared on the right or left of the screen. For the IAPs stimuli, we randomly paired 14 positive (e.g. images of sunsets, butterflies, dolphins) and neutral images (e.g., images of a fork, towel, lamp) of non-human stimuli. As the final part of the experiment, participants wrote a thank-you letter to another person and then were informed that they could take the opportunity to email the letter to the person to whom it had been written (reported as Study 2 within the manuscript presented in Chapter 2).

Measures.

Prioritizing Positivity. The Prioritizing Positivity scale measures the extent to which people arrange their daily lives to include frequent experiences of positivity (Catalino, Coffey, Algoe, & Fredrickson, 2013). Participants indicated their agreement or disagreement on a 9-point scale (1 = *Disagree Strongly*, 9 = *Agree Strongly*) with 6 items ($\alpha = .71$).

Prioritizing Positivity/Control passage. To manipulate prioritizing positivity, participants were presented with a passage that extolled the benefits of positive emotions, included (factual) scientific information on how positive emotions make people's thinking more creative and flexible, protect people's immune system, and predict more fulfilling marriages in the future. The control passage featured neuroscientific information about positive emotions including facts about where positive emotions seem to be instantiated in the brain. The number of times the term "positive emotions" appeared was equal across passages. In addition, both conditions read about prosopagnosia (face-blindness), so as not to draw attention to the fact that the other passage was about positive emotions. Both conditions completed a manipulation check item "To what degree do you truly believe that a priority in everyday life should be experiencing positive emotions?" on a 5-point scale (1 = *Disagree Strongly*, 5 = *Agree Strongly*), although due to an error, six participants did not receive the manipulation check item. The full versions of these passages are provided in the Appendix.

Results.

Prioritizing Positivity manipulation. The prioritizing positivity manipulation seemed to have failed. Participants who read the passage about the benefits of positive emotions scored no higher on the item "To what degree do you truly believe that a priority in everyday life should be experiencing positive emotions?" ($M = 4.27$, $SD = .78$) than people who read about the neuroscience of positive emotions ($M = 4.42$, $SD = .72$), $t(52) = -.72$, $p = .47$.

Attentional bias scores. Because of technical malfunction with the program DirectRT (on which the dot-probe task ran), data for one participant were missing,

resulting in 59 participants for this particular set of analyses. Prior to reducing the data to create composite scores on how quickly participants detected the probe (i.e. the star), each participant's data file was checked for accuracy. If a participant's response to the location of the probe was wrong, the corresponding reaction time was not included as part of the participant's mean probe-detection time.

Given the two types of stimuli (facial stimuli, IAPS stimuli) and two presentation times (brief—30ms, long—420ms), there were four positive mean-probe detection variables (LongPositiveFace, LongPositiveIAPS, ShortPositiveFace, ShortPositiveIAPS) and four neutral mean-probe detection variables (LongNeutralFace, LongNeutralIAPS, ShortNeutralFace, ShortNeutralIAPS). For each of the eight mean-probe detection variables, I removed the observations that were 3 SD above or below the mean. (As an alternative data analytic strategy, I also ran analyses after replacing these extreme observations with values that were equal to values that were 3 SD above or below the mean. The final pattern of results was the same.)

For each participant, the attentional bias scores were calculated by subtracting the mean probe-detection times for probes (i.e., the star) appearing where a positive image had been from the mean probe-detection time for probes where a neutral image had been. Positive values on these difference scores reflect a bias towards attending towards positive stimuli, whereas negative values reflect a bias towards attending to neutral faces. Table 1 presents the descriptive statistics for the 4 different types of attentional bias scores (ShortFace, LongFace, ShortIAPS, LongIAPS). These four scores were normally distributed, with the exception of the ShortFace variable, which was positively skewed and did not respond to a transformation.

Although the manipulation did not seem to work, as indexed by the results of the manipulation check, I nonetheless ran a series of *t*-tests to examine whether people in the prioritizing positivity condition exhibited an attentional bias towards positive stimuli. Table 7 presents the results from these analyses. Results revealed that people in the prioritizing positivity condition did not exhibit more of a conscious, positive attentional bias to facial stimuli ($M = -.98, SD = 19.95$) than people in the control condition ($M = -7.75, SD = 18.22$), $t(57) = 1.36, p = .18$. Similarly, there was no conscious, positive attentional bias to non-human stimuli in the prioritizing positivity condition ($M = -.70, SD = 35.05$) versus the control condition ($M = 3.07, SD = 33.30$), $t(57) = -.42, p = .67$. For exploratory purposes, I also tested whether people in the prioritizing positivity condition exhibited more of an initial orienting response to positive facial stimuli ($M = 8.62, SD = 20.79$) than people in the control condition ($M = 11.33, SD = 21.58$), $t(57) = -.49, p = .63$, and found no significant difference. The same was the case regarding an initial, orienting response to positive non-human stimuli in the prioritizing positivity condition ($M = -.62, SD = 20.45$) versus the control condition ($M = -1.62, SD = 21.82$), $t(57) = .18, p = .86$.

To test the hypothesis that people high in prioritizing positivity (as assessed using the individual difference measure) deliberately pay more attention to positive stimuli, I ran a set of regression models where prioritizing positivity was the predictor and attentional bias scores were the outcome variable. All models also controlled for experimental condition. Table 8 presents the results from these analyses. Results revealed that prioritizing positivity did not predict a conscious, positive attentional bias to either facial stimuli ($b^* = -.05, p = .70$) or non-human stimuli ($b^* = -.08, p = .57$). For exploratory purposes, I also tested whether prioritizing positivity would influence initial

orienting to positive stimuli. Similarly, I found that prioritizing positivity did not predict a positive attentional bias, at pre-conscious levels, to either facial stimuli ($b^* = .05$, $p = .71$) or non-human stimuli ($b^* = .04$, $p = .78$).

Discussion

People high in prioritizing positivity are motivated to seek out pleasant states in their day-to-day lives, and one way this motivation may be expressed is through the attention given to pleasant stimuli in the environment. Pleasant stimuli may, after all, represent opportunities to experience positive emotions. To test this hypothesis, I conducted an experiment, using dot-probe methodology, in which participants were presented with positive and neutral images on a computer screen. Counter to my hypothesis, people manipulated to be high in prioritizing positivity did not pay more attention to the pleasant images, regardless of the nature of pleasant image presented. Because the manipulation did not appear to be effective, however, these results are hardly surprising. (Further, in exploratory analyses, this null effect was present when examining initial orienting to pleasant images, also.) Results were essentially the same when examining the effect of measured prioritizing positivity on attentional bias. Although people high in prioritizing seem to be on the “look-out” for pleasant experiences, as exemplified by how they decide to organize their lives, this approach did not manifest in the attention domain, at least not as measured with this dot-probe task. These results are qualified by the fact that perhaps support for this hypothesis may have been found if a different attention measure was used, such as eye-tracking. In contrast to dot-probe methodology, eye-tracking follows the gaze of the participant so very precise data about where the eye moves is recorded. This speculation merits test.

Study 4: Prioritizing Positivity and Effort Expended for Pleasant Events as well as the links between Prioritizing Positivity and Future Resources

This study had two major aims. The first was to test the hypothesis that prioritizing positivity predicts the amount of effort individuals are willing to exert to experience pleasant events. Many positive experiences in life, such as going to a concert or keeping in contact with a long-distance loved one, require effort. With different time zones and daily agendas, finding a mutually suitable time to connect with a good friend, for instance, could take several rounds of text messages before the phone call even takes place. And although pleasant events are inherently rewarding, not everyone is willing to exert effort to make these events happen. People high in prioritizing positivity may comprise this subset of individuals. Indeed, the items on the scale (e.g. “A priority for me is experiencing happiness in everyday life”, “I structure my day to maximize my happiness) reflect a motivation to experience pleasant states and even suggest some evidence of expended energy, because planning requires cognitive effort and time. Testing whether prioritizing positivity predicts people’s ‘wanting’ or motivation to experience pleasant events is important, because it could illustrate a potential mechanism through which prioritizing positivity may lead to greater positive emotions: more frequent pleasant events. That is, the daily planners of people high in prioritizing positivity could contain a higher number of the types of events that most people enjoy, and this may not necessarily have anything to do with the fact that people high in prioritizing positivity ‘like’ or enjoy these events more, given that ‘wanting’ and ‘liking’ are independent reward processes. To measure motivation to obtain pleasant experiences, participants completed a modified version of an effort-reward task (Waugh

& Gotlib, 2008). During this task, participants were provided with the option of viewing humorous versus non-humorous cartoons under varying levels of effort. I hypothesized that individuals higher in prioritizing positivity would exert more effort to view the humorous cartoons.

The second major aim of this study was to test whether prioritizing positivity predicted more resources over time, as mediated by more frequent experiences of positive emotions. In this dissertation, I discovered that prioritizing positivity predicts more frequent experiences of positive emotion, and according to the broaden-and-build theory, the cognitive effects (e.g., broadened attention) caused by positive emotions, lead people to build a host of resources (Fredrickson, 1998). As such, I hypothesized that because prioritizing positivity is associated with more frequent positive emotions, greater resources would result over time. To test this hypothesis, participants completed questionnaires approximately six weeks after they completed the experiment described below.

Methods

Participants. One hundred and five middle-aged adults were recruited in exchange for monetary compensation (\$20) and a chance to win, within the sample, a gift certificate for \$100 to Amazon. Two participants demonstrated clear deficits in literacy, as evidenced in the laboratory visit, and were omitted from all analyses. The remaining sample consisted of 103 participants (83% female). The racial make-up of the sample was Caucasian ($n = 89$), African-American ($n = 7$), Asian ($n = 3$), and other ($n = 2$). Participants' ages ranged from 35 to 66, with a mean of 49.14 ($SD = 8.80$). Six

participants did not report their age, two participants did not report their gender, and one participant did not report his or her race.

Procedure. The study, advertised as “The Cognitions, Emotions, and Motivations of Adults study,” involved three major steps. For the first step, participants completed several questionnaires, including prioritizing positivity, emotions, and three resources, before visiting the laboratory. For the second step, participants came to the laboratory where they were randomly assigned to read a passage intended to increase prioritizing positivity, decrease prioritizing positivity, or a passage about the neuroscience of positive emotions (as a control condition). Then participants wrote a paragraph or two in support of the main idea of the passage and answered a manipulation check item embedded within three other “filler” items, so that the manipulation check would not seem obvious. Then, participants completed four consecutive computer tasks as part of the modified version of the effort-reward task, in which humorous and non-humorous cartoons are presented to participants under varying levels of effort (Waugh & Gotlib, 2008). These included a preference task, a liking task, a motivation (‘wanting’) task, and an affective priming task. The task of interest to the current hypothesis is the motivation ‘wanting’ task, although given how related ‘wanting’ and ‘liking’ are, I will also describe the liking task, for the purpose of ruling out a potential alternative explanation. (The preference task is not of interest because it simply measures which cartoon participants prefer, and the affective priming task is not of interest because it measures reaction time to pleasant and unpleasant words.) For the third step, approximately six weeks after the lab session, participants completed a series of

questionnaires online, which assessed their levels of three resources (one psychological, one social, one physical) again, and then were debriefed.

Measures.

Pre-laboratory and Post-lab Questionnaires.

Prioritizing Positivity. The Prioritizing Positivity scale measures the tendency to seek out positive emotional experiences on a day-to-day basis when making decisions about how to organize daily life (Catalino, Coffey, Algoe, & Fredrickson, 2013).

Participants indicated their agreement or disagreement on a 9-point scale (1 = *Disagree Strongly*, 9 = *Agree Strongly*) with 6 items ($\alpha = .84$).

Modified Differential Emotions Scale (mDES). The modified Differential Emotions Scale (mDES) measures the frequency with which people experienced positive and negative emotions over the past two weeks (Fredrickson, Tugade, Waugh, & Larkin, 2003; Fredrickson, 2013). Participants indicated their frequency of experience on a 5-point scale (0 = *Not at all*, = *Most of the time*) for 10 positive emotions, including amusement, awe, contentment, gratitude, hope, inspiration, interest, joy, love, and pride ($\alpha = .91$) and 8 negative emotions, including anger, sadness, fear, disgust, contempt, embarrassment, guilt, and shame ($\alpha = .73$).

Ego-Resilience. The ego-resilience scale measures the tendency to adapt to continual shifts in the environment and bounce back from adversity (Block & Kremen, 1996). Participants indicated on a 4-point scale (1 = *Does not apply at all*, 4 = *Applies very strongly*) the extent to which 14 items apply to them, including “I enjoy dealing with new and unusual situations” and “I get over my anger at someone reasonably quickly” ($T_1\alpha = .76$, $T_2\alpha = .77$).

Illness Symptoms. This self-report scale measures 13 symptoms of poor health, including headaches, stiff muscles, nausea, and coughing (Elliot & Sheldon, 1998). Participants used a 9-point scale from 0 (*Not at all*) to 8 (*Very frequently*) to report the frequency of each symptom experienced over the past two weeks ($T_1\alpha = .86$, $T_2\alpha = .85$).

Positive Relations with Others. This subscale is drawn from a psychological well-being scale and assesses the presence of satisfying, interpersonal connections (Ryff, 1998). Participants indicated their agreement or disagreement on a 5-point scale from 1 (*Strongly disagree*) to 5 (*Strongly agree*) with 7 items including “I know that I can trust my friends, and they know they can trust me” ($T_1\alpha = .78$, $T_2\alpha = .81$).

Laboratory Tasks.

Prioritizing Positivity/Deprioritizing Positivity/Control passages. Because previous attempts to manipulate prioritizing positivity appeared to have failed, I developed two new ways of manipulating the construct—one to increase prioritizing positivity and one to decrease it. As an attempt to increase prioritizing positivity, participants read about the partially fictitious benefits of taking into account one’s potential happiness when making decisions about how to organize day-to-day life (e.g., “People who decide to engage in activities because they might feel positive emotions (e.g. interest, amusement) fare the best. They experience more vitality, less stress and display lower levels of inflammation in the body—a biological indicator of physical health.”) and then wrote a paragraph or two in defense of this perspective. In the second condition, to decrease prioritizing positivity, participants read about the fictitious harms of the previously mentioned approach (“People who decide to engage in activities because they might feel positive emotions (e.g., interest, amusement) fare the worst.

They experienced less vitality, more stress and display higher levels of inflammation in the body—a biological indicator of ill health.”) and also wrote a paragraph or two in defense of this perspective. In the third condition (the control condition), participants read about the neuroscience of positive emotions (e.g., “In recent years, psychologists have been studying the physiological underpinnings of happiness, and perhaps some of the most consistent findings in the literature is the involvement of the left hemisphere of the prefrontal cortex.”) and wrote a paragraph or two about the importance of conducting neuroscientific research. All three conditions completed four items, including the manipulation check item “One’s potential happiness should be one of the primary considerations when making decisions in life.” on a 9-point scale (1 = *Disagree Strongly*, 9 = *Agree Strongly*). The full versions of these passages and their accompanying prompts are provided in the Appendix.

Liking task. Participants were presented, one at a time, with 20 humorous and non-humorous cartoons. Above each cartoon was the label “LUM” or “GUP”, which corresponded to whether the cartoons were humorous or not, although this was never explicitly stated to the participant. The labels were counter-balanced in experimental sessions, such that in one session the “LUM” cartoons might label the humorous cartoons, whereas in another session, it was the reverse. Participants rated how much they liked the cartoon on a visual analog scale spanning 0 pixels (‘extremely disliked’) to 1000 pixels (‘extremely liked’).

Motivation (‘Wanting’) task. Participants were presented with the decision to see a novel cartoon from either the “LUM” deck or the “GUP” deck, labels that relayed no information about whether the cartoons were humorous or not. Each deck choice came

with a ‘click-cost’ that reflected the number of times participants would have to click on a moving black square on the computer screen to see the cartoon from the given deck. The black square appeared at random points on the computer screen. After participants completed the ‘click-cost’, the cartoon from the chosen deck was presented and then participants rated how much they liked the cartoon using the visual analog scale. There were 36 trials.

The nonhumorous deck of cartoons was anchored at either 0 or 15 clicks, and the click-cost associated with the humorous deck was always larger than the non-humorous deck. A random adjusting-amount algorithm adapted from Richards, Zhang, Mitchell, and de Wit (1990) was programmed so that with every choice, the next click-cost for the humorous deck was decided. Over a period of trials, the algorithm narrowed the range of values from which the next click cost was determined, until the range of the upper and lower limits of the click-cost was five clicks. The click-cost for the humorous deck of cartoons at which “the participant was indifferent between the two choices (i.e., was equally likely to choose either deck)” reflected the indifference point (Sherdell, Waugh, & Gotlib, 2011: p. 54). The indifference point reflected the amount of effort participants were willing to expend to view humorous cartoons. For each participant, two different indifference points were calculated. One indifference point reflected the click-cost for the humorous deck at which the participant was equally likely to choose either deck when the nonhumorous deck of cartoons was anchored at 0 clicks. The second indifference point reflected the same thing, except in this case the nonhumorous deck of cartoons was anchored at 15 clicks. To illustrate the meaning of the indifference points, consider two hypothetical participants when the nonhumorous deck of cartoons is anchored at 0. The

first participant has an indifference point of 10, meaning that 10 is the click-cost for the humorous deck at which she is equally likely to choose either deck. The second participant has an indifference point of 30, meaning that 30 clicks reflects the point at which she is equally likely to choose either deck. The second participant's indifference point is higher; thus, she is willing to exert more effort to view positive stimuli.

Results

Females did not score differently on prioritizing positivity ($M = 7.13, SD = 1.30$) than males ($M = 7.57, SD = .93$), $t(99) = -1.31, p = .19$. In addition, there was no significant correlation between prioritizing positivity and age ($r = -.13, p = .19$). As such, I do not control for gender or age in any of the analyses that examine the correlational effects of prioritizing positivity.

Prioritizing Positivity manipulation. Because of technical errors (e.g., the Qualtrics website froze), this sample is composed of 101 participants. Participant's average response to the manipulation check item "One's potential happiness should be one of the primary considerations when making decisions in life" was 7.01 ($SD = 1.79$) on a 9-point scale (1 = *Disagree Strongly*, 9 = *Agree Strongly*). Responses ranged from 1 to 9. To test whether the two manipulations were effective, I carried out two planned contrasts. Participants who read and wrote about the benefits of prioritizing positivity ("prioritizing positivity condition") scored no higher on the manipulation check ($M = 7.39, SD = 1.67$) than participants who read and wrote about the neuroscience of positive emotions ("control condition") ($M = 7.42, SD = 1.30$) ($t(98) = -.07, p = .94$). Participants who read and wrote about the harms of prioritizing positivity ("deprioritizing positivity condition") scored significantly lower ($M = 6.24, SD = 2.10$) than participants who read

and wrote about the neuroscience of positive emotions (“control condition”) ($M = 7.42$, $SD = 1.30$) ($t(98) = -2.88$, $p = .005$). Because the responses to the manipulation check item was negatively skewed (-1.37), I applied a squared transformation. This transformation reduced the skew ($-.68$), and the manipulation check results were essentially the same.

Effort exerted to view humorous cartoons when non-humorous cartoons anchored at 0. First, I examined the indifference points when the non-humorous deck of cartoons was anchored at 0 clicks. Because of technical error, one of the data files for the Motivation (‘Wanting’) task was not properly recorded during the session. In addition, in some instances the algorithm was unable to calculate the participant’s indifference point by the end of the 36 trials in the Motivation (‘Wanting’) task. For this subset of 10 participants, the computer program attempted to calculate an approximate indifference point, in which the range between the upper and lower limit of the click-cost was 10 clicks instead of five. In so doing, we recovered 6 indifference points, resulting in a total of 98 participants for these analyses. Participants’ indifference points ranged from 0 to 60, and the average indifference point was 22.17 ($SD = 15.65$). The distribution was relatively normal, although a noticeable proportion of individuals (18 participants) had indifference points of 0.

Although the manipulation check analyses only partially supported the idea that we successfully manipulated prioritizing positivity, I nonetheless tested the hypothesis that people manipulated to be high (or low) in prioritizing positivity would exert more (or less) effort to view humorous cartoons. To do so, I carried out two planned contrasts. Results revealed that participants in the “prioritizing positivity” condition did not exert

more effort ($M = 24.66$, $SD = 16.90$) than participants in the control condition ($M = 21.03$, $SD = 15.36$), $t(94) = .92$, $p = .36$. Also, participants in the “deprioritizing positivity” condition did not exert less effort ($M = 21.47$, $SD = 14.90$) than participants in the control condition ($M = 21.03$), $t(94)$, $p = .91$. Given these experimental results, I examined the hypothesis again by examining whether people high in prioritizing positivity (as measured by the individual difference measure) would exert more effort to view positive stimuli. Results revealed that controlling for experimental condition (using two dummy-coded variables), participants high in prioritizing positivity exerted more effort to view positive stimuli ($b = 2.87$; $b^* = .22$, $p = .03$). That is, for every one unit increase in prioritizing positivity, there is a 2.87 increase in the indifference point of the individual. To illustrate this effect further, the estimated indifference score for a person 1 SD below the mean of prioritizing positivity is 17, whereas for a person 1 SD above the mean, it is 24.

Effort exerted to view humorous cartoons when non-humorous cartoons anchored at 15. Next, I examined the indifference points when the nonhumorous deck of cartoons was anchored at 15 clicks. Again, the algorithm was unable to calculate some participants’ indifference points by the end of the 36 trials in the Motivation (‘Wanting’) task, so we calculated an approximate indifference point for this subset of 14 participants, in which the range between the upper and lower limit of the click-cost was 10 clicks instead of five. In so doing, we recovered 12 indifference points, resulting in a total of 100 participants for this analysis. In the current sample, participants’ indifference points ranged from 15 to 70, and the average indifference point was 35.50 ($SD = 16.02$). The scores were somewhat normally distributed; the scores only deviated from normality,

because a noticeable proportion of individuals (21 participants) had indifference points of 0.

To test whether people manipulated to be high (or low) in prioritizing positivity would exert more effort to view humorous cartoons, I carried out two planned contrasts. Results revealed that participants in the “prioritizing positivity” condition did not exert more effort ($M = 35.81$, $SD = 15.55$) than participants in the control condition ($M = 34.29$, $SD = 16.10$), $t(96)$, $p < .71$. Also, participants in the “deprioritizing positivity” condition did not exert less effort ($M = 36.21$, $SD = 16.87$) than participants in the control condition ($M = 34.29$, $SD = 16.10$), $t(96)$, $p < .63$. I examined the hypothesis again by examining whether people high in prioritizing positivity (as measured by the individual difference measure) exerted more effort to view positive stimuli. Results revealed that controlling for experimental condition, participants high in prioritizing positivity did not exert more effort to view positive stimuli ($b^* = .06$, $p = .60$).

Liking of humorous versus non-humorous cartoons. Participants’ liking of the humorous cartoons, ranged from 216.30 to 984.20, and the average liking score was 731.85 ($SD = 141.77$). Participants liking of the non-humorous cartoons, ranged from 23.20 to 863.90, and the average liking score was 418.81 ($SD = 156.64$). Although how much participants liked the cartoons is not directly relevant to the hypothesis, it is interesting to know whether the significant effect of prioritizing positivity on demonstrated effort to view the humorous cartoon (when the anchor is 0) withstands when controlling for how much participants generally liked the humorous cartoons. Interestingly, controlling for experimental condition, the effect of prioritizing positivity ($b^* = .24$, $p = .02$) on exhibited effort to view positive stimuli remained, even when

liking ($b^* = .26, p = .01$) was included in the model. This reveals that prioritizing positivity and how much participants generally liked the cartoons independently predicted how hard individuals were willing to expend effort to experience a pleasant event.

Prioritizing Positivity and Resources. Given the link between prioritizing positivity and more frequent positive emotions, as evidenced in an earlier study (Catalino, Coffey, Algoe, & Fredrickson, 2013; herein Chapter 2), I hypothesized that prioritizing positivity would prospectively predict greater levels of resources over time, and that positive emotionality would mediate these relationships, as predicted by the broaden-and-build theory of positive emotions (Fredrickson, 2013). To test this hypothesis, I first examined whether prioritizing positivity prospectively predicted greater resources. In particular, I examined the three resources of ego-resilience, positive relations with others, and illness symptoms. Examining ego-resilience first, I found that prioritizing positivity marginally significantly predicted higher resilience approximately six weeks later ($b^* = .14, p = .09$), controlling for initial levels of resilience ($b^* = .65, p < .001$) and experimental condition. Examining positive relations with others next, I found that prioritizing positivity did not predict greater positive relations with others approximately six weeks later ($b^* = .05, p < .50$), controlling for initial levels of positive relations with others ($b^* = .74, p < .001$) and experimental condition. Finally, examining illness symptoms, I found that prioritizing positivity did not predict fewer illness symptoms about six weeks later ($b^* = .06, p < .53$), controlling for initial levels of illness symptoms ($b^* = .65, p < .001$) and experimental condition. After completing these analyses, I discovered that, replicating earlier findings in a prior study (Catalino et al., 2013; herein

Chapter 2), in this sample prioritizing positivity also significantly predicted more positive emotions ($b^* = .43$, $p < .001$). (Interestingly, prioritizing positivity did not significantly predict fewer negative emotions [$b^* = -.15$, $p = .14$] in this sample.) Third, I tested whether the effects of prioritizing positivity on resilience (the only resource that was marginally predicted by prioritizing positivity over time) was mediated by its effect on positive emotions, using a bootstrapping method with a resampling size of 5000. With a point estimate of .0082, and a bias-corrected confidence interval that included zero (-.0098, .0597), I did not find that positive emotionality mediated the relation between prioritizing positivity and resilience.

Discussion

One of the goals of the current study was to test whether prioritizing positivity influenced the amount of effort individuals were willing to exert to experience pleasant events. Results revealed partial support. Although experimental attempts to manipulate prioritizing positivity appeared to be somewhat effective, the conditions did not appear to affect how hard participants worked to view the humorous cartoons, regardless of whether the nonhumorous cartoons were anchored at 0 or 15. Given that the motivation task lasted 30 minutes, on average, the manipulation may not have been strong enough to have withstood this significant period of time.

Interestingly, however, during trials in which the nonhumorous cartoons were anchored at 0, people high on the individual difference measure, prioritizing positivity, exerted more effort. In particular, with every point higher a person was on the prioritizing positivity scale, they were willing to ‘work’ or click the moving square about three more times to view a humorous cartoon, when the alternative was to do nothing to

view a nonhumorous cartoon. These results suggest that when the alternative is simply to “opt out” or do no work, differences in the extent to which people prioritize positivity may be critical to explaining how much effort individuals are willing to exert to experience a pleasant event. Further, controlling for how much participants liked the humorous cartoons, the effect remained. These results are intriguing, because they suggest that people high versus low in prioritizing positivity may not differ in how much they enjoy pleasant events but rather in whether they make these events actually happen when the alternative is to do nothing. This behavioral difference may be crucial to warding away negative mental health outcomes, such as depression. Curiously, a similar pattern of results was absent when the nonhumorous cartoons were anchored at 15. This suggests that when some amount of effort is necessary, regardless of which choice the participant makes, differences in prioritizing positivity are not helpful in explaining how much people exert effort.

The second goal of the current study was to test whether prioritizing positivity predicted greater resources, over time, as mediated by positive emotionality. Contrary to my hypothesis, prioritizing positivity did not predict fewer illness symptoms, several weeks later, or positive relations with others. Prioritizing positivity did marginally predict greater resilience in the future, consistent with prior evidence on the prospective link between positive emotions and resilience (Cohn, Fredrickson, Brown, Mikels, & Conway, 2009). However, there was no evidence for the hypothesis that this effect was mediated by more frequent experiences of positive emotions, although a positive association existed between prioritizing positivity and positive emotions. Future research

should test whether a similar pattern of results exists when considering other relevant resources, in particular those measured objectively rather than by self-report measures.

CHAPTER FOUR

GENERAL DISCUSSION

The overarching aim of this dissertation was to introduce the construct of prioritizing positivity and examine its role in the promotion of well-being. Prioritizing positivity refers to the extent to which individuals arrange their daily lives to include frequent experiences of positivity. People high in prioritizing positivity, as part of their daily routine, seek out rewarding experiences, whereas others do not make this a consideration. In contrast to the idea that happiness can wait, people high on prioritizing positivity pursue happiness as a daily aim, and this manifests in the way they make decisions about how to organize their time.

Summary of Results

My first research question addressed the factor structure of prioritizing positivity, which was discovered to be unidimensional. My first hypothesis stated that prioritizing positivity is a unique construct, not redundant with other conceptually-related constructs. To measure prioritizing positivity, I developed a six-item scale and discovered that prioritizing positivity was positively associated with constructs that tap into a valuation or pursuit of pleasant states (e.g., excitement-seeking, ideal positive affect), providing construct validity for prioritizing positivity. Interestingly, I discovered no association between prioritizing positivity and impulsivity and a positive correlation between prioritizing positivity and conscientiousness. These results suggest that people who prioritize positivity are not necessarily low in self-regulation, driven by hedonistic

whims, or unable to meet the demands of everyday life. If anything, people high in prioritizing positivity appear to be quite deliberate in their approach to seeking happiness. In sum, I discovered full support for my first hypothesis.

My second hypothesis stated that prioritizing positivity is positively associated with positive indicators of well-being and negatively associated with distress. Using a survey-based study, I discovered that people high in prioritizing positivity experienced more frequent positive emotions, fewer negative emotions, greater life satisfaction, more flourishing, and less depressive symptomology. In sum, these results provide full support for Hypothesis 2 and the broader idea that prioritizing positivity may be an effective approach to the pursuit of happiness.

Given evidence that prioritizing positivity may contribute to beneficial mental health outcomes, I conducted a set of studies to investigate the potential mechanisms of the link between prioritizing positivity and greater well-being. In particular, my third hypothesis stated that prioritizing positivity predicts heightened attention to positive stimuli, relative to neutral stimuli. Results revealed that neither the attempt to manipulate prioritizing positivity, which failed, nor the measurement of prioritizing positivity (via the indifference difference measure) predicted greater attention to positive stimuli. This null finding is surprising, because the essence of prioritizing positivity is a quest for positivity. Even though these results did not support the third hypothesis, it remains unclear whether effects could have been found using more advanced and precise technologies to assess attention processes, such as eye-tracking.

Another mechanism that might explain the link between prioritizing positivity and greater well-being is the amount of effort exerted to experience pleasant events.

Specifically, my fourth hypothesis stated that prioritizing positivity predict greater effort to obtain pleasant experiences. I discovered partial support for this hypothesis. When the alternative was to “opt out” or do no work, people high in prioritizing positivity worked harder to experience a pleasant event (i.e., view a humorous cartoon). When the alternative was to work for a neutral event, people high in prioritizing positivity did not work harder to experience a pleasant event. Thus, prioritizing positivity may be critical to combatting inertia or “getting people off the couch” when it comes to putting in the effort necessary to experience a pleasant event. These results illuminate the motivational core of prioritizing positivity. People who prioritize positivity seek out positivity in everyday life and put in the effort to reach this goal. As such, the daily lives of people high in prioritizing positivity may be comprised of a greater frequency of pleasant events, likely proactively sought out by them. This speculation merits empirical test.

Last, my fifth hypothesis stated that prioritizing positivity predicts people’s accumulation of greater resources, over time, as mediated by positive emotionality. With the three resources that were tested (resilience, illness symptoms, social support), I discovered no support for this hypothesis.

In summary, these results suggest that prioritizing positivity is an individual difference that is related to well-being. Although empirical evidence suggests that the deliberate pursuit of happiness is counter-productive, the current research suggests this is not the whole story. In the remainder of this chapter, I will elaborate on the theoretical contributions of prioritizing positivity to the emotions and well-being literature and explore future directions for this program of research.

Taking stock of the question “Can people deliberately pursue happiness?”

Effective ways of pursuing happiness likely do not involve self-monitoring

A key reason why prioritizing positivity may be an effective way to pursue happiness is because it involves situation selection, an emotion regulation strategy that does not require the direct management or monitoring of moment-to-moment experience. Although situation selection requires monitoring one's day-to-day itinerary, it does not involve monitoring every experienced moment, a tactic that may chase positive emotions away (e.g. Schooler et al., 2003). Given that trying to up-regulate positivity from one moment to the next requires a substantial degree of self-monitoring and cognitive effort, this could be the reason why previous research (e.g., Mauss et. al., 2011) has shown that pursuing happiness backfires. Thus, prioritizing positivity may be an effective way to pursue happiness, because it involves proactively regulating the situations people encounter rather than regulating ongoing experience.

In addition, situation selection represents a powerful way to exert control over one's emotions, because it, by definition, provides the boundary conditions for any ensuing emotional experiences. Even so, this does not mean that other types of emotion regulation strategies (such as situation modification, attention deployment, cognitive change, or response modulation; see Gross, 2009) are doomed to be counterproductive in promoting positive affect. I speculate that as long as these other emotion regulation strategies are not too "self-focused" or do not involve carefully assessing one moment to the next, they could also be quite useful. For instance, deliberately directing one's attention to the current ongoing experience, or being present, has been shown to increase the intensity of a positive emotional experience (Erisman & Roemer, 2010). In addition, in a recent investigation of a host of positive emotion regulation strategies, researchers

discovered that engaging in a combination of different “engagement” strategies, spanning the full range of Gross’s process model of emotion regulation, predicted more positive emotions overall (Livingstone & Srivastava, 2012). Examples included savoring the moment, directing conversations to pleasant things, and putting oneself in situations that would feel good. These researchers did not examine these strategies were independently, however, making it impossible to know whether any particular strategy was by itself more or less effective. Nevertheless, I note that none of these strategies involve self-monitoring.

Effective ways of pursuing happiness are likely tied to the ‘everyday’

Prioritizing positivity, and other effective ways of pursuing happiness, may be beneficial to mental health because of their relevance to everyday life. People who prioritize positivity make their potential happiness an ongoing key consideration, as opposed to just once in awhile. Indeed, the positive emotional benefits from positive events, such as getting married, wear off over time, supporting the notion that effectively pursuing happiness may involve frequently (or chronically) engaging in behaviors that promote happiness. This conclusion resonates with the integrative model of sustainable happiness, in which intentional activities are considered to be one of the critical components of happiness (Lyubomirsky et al., 2005). For instance, people high in prioritizing positivity may be more likely to have ‘standing’ enjoyable activities on the their calendars, such as a weekly poker night, a ladies brunch, or Monday night football, essentially deploying routines in the service of well-being. Validating these ideas empirically is an important next step.

The notion the people high in prioritizing positivity may schedule ‘standing’ enjoyable activities raises the issue of potential habituation to these activities. Might having a poker night week after week become dull over time? Perhaps, but because people high in prioritizing positivity arrange their lives to experience frequent positivity, I speculate they will likely be quite attuned to the presence (or lack) of the positive emotional benefits of the activity, and adjust accordingly, by either modifying the event each week or replacing it with a different card game or activity. Indeed, when left to their own devices, people seem to naturally prefer and create variety in the way they engage with happiness strategies (Parks, Della Porta, Pierce, Zilca, & Lyubomirsky, 2012).

Worthy of note, prioritizing positivity is about setting up one’s day-to-day life to include frequent experiences of positive emotions and may not necessarily be about seeking positivity at each hour of the day or in every context. As research on the preference to feel pleasant states shows, people who prefer to feel happy during inappropriate times, such as a confrontation, actually display lower well-being (Tamir & Ford, 2012). Although I do not have empirical evidence to speak to this point, I speculate that prioritizing positivity may be so robustly tied to overall well-being because the aim is not to structure each hour to maximize positivity but rather to structure one’s *days* to maximize one’s positivity. Doing the former would inevitably lead to putting off chores or duties that, over time, would result in low well-being. Doing the latter would allow the individual to balance responsibilities with interests.

Future Directions

Reciprocal relations between prioritizing positivity and emotional and physical health

One challenge that surfaced in this set of studies was the difficulty of manipulating prioritizing positivity within the context of the laboratory, although in the last study, the attempt to decrease participants' level of prioritizing positivity, relative to the control, appeared to be effective. What about increasing people's prioritizing positivity in a lasting way? This seems possible, although the manipulation would probably have to be potent, because prioritizing positivity taps into a pervasive aspect of a person's lifestyle. A seven-week workshop on loving kindness meditation, conducted to increase people's trait levels of positive emotion, provided some clues that prioritizing positivity might increase in step with increases in positive emotions. Although the six-item measure of prioritizing positivity did not exist at the time of data collection, a hybrid seven-item measure of valuing positivity and prioritizing positivity was administered, which included two items from the current prioritizing positivity scale. Participants who engaged in loving-kindness meditation increased in positive emotions and also increased in the hybrid measure of valuing positivity and prioritizing positivity. This result is interesting, because it hints at the notion that increases in positivity make it more likely for people to seek out positivity, and illuminates how 'liking' and 'wanting' may reinforce one another over time. Thus, prioritizing positivity and positive emotions (and other aspects of people's mental health) may relate to each other in a reciprocal fashion, perpetuating better (or worse) mental health. For instance, prioritizing positivity prospectively might predict less depression, and less depression prospectively might then

predict greater prioritizing positivity. Testing this idea would require assessing these constructs (prioritizing positivity, well-being), over time, using a longitudinal design.

In addition to investigating the plausible bidirectional links between prioritizing positivity and mental health, researchers should explore reciprocal causality with prioritizing positivity and biological markers of health. Consider the potential inverse link between prioritizing positivity and chronic inflammation in the body. Inflammation, an initial healthy biological response, can become chronic and thus promote a host of diseases, such as cancer and diabetes. Prioritizing positivity may well promote health, as indexed by less chronic inflammation in the body, but might less chronic inflammation also motivate individuals to seek out pleasant experiences in their everyday lives? Research on the link between inflammation and “sickness behaviors” provide hints this may be the case. For instance, inflammation has been shown to lead to social withdrawal and decreased motor activity—two potential sources of positivity (Dantzer, O’Connor, Freund, Johnson, & Kelley, 2008). A longitudinal study would unravel how these different constructs (prioritizing positivity, inflammation) may reciprocally influence each other, over time.

Prioritizing positivity in situations of chronic stress and the health context

Prioritizing positivity may play an important role in helping individuals manage chronic stress. One “stress-buffer” that has received empirical support is the experience of positive emotions. For instance, positive emotions mediate the link between resilience and faster cardiovascular recovery from a stressor (Tugade & Fredrickson, 2004). Because people high in prioritizing positivity incorporate pleasant experiences into their day-to-day lives, they gain access to a steady stream of positive emotions. I

speculate that even when things are rough, people high in prioritizing positivity make time for enjoyable experiences, even if they are brief, such as watching a television show for 30 minutes. Making room for these types of pleasurable events may indirectly offer people who are experiencing chronic stress a dose of positive emotions, which may consequently allow them to cope more effectively with the stressors they face. Testing this idea would require assessing these constructs (prioritizing positivity, well-being) in a population experiencing a chronic stressor, such as caring for a sick loved one.

The role that prioritizing positivity plays in enacting healthy behaviors could also be a fruitful area of research. Engaging in physical activity, for instance, is one of most healthy and surefire ways to increase one's positivity (for a meta-analysis, see Reed & Ones, 2006). To the extent that people are aware of the connection between engaging in healthy behaviors, such as physical activity, and feeling 'good,' people high in prioritizing positivity may ultimately (and even inadvertently) lead healthier lifestyles. This is important, given the prevalence of obesity and chronic health conditions in society today, and the difficulty associated with motivating individuals to incorporate more physical activity into their lives. Further, the potential role of prioritizing positivity in enacting health behaviors suggests that people high in prioritizing positivity may profit more, in the long-run, from experiencing a 'boost' of positive emotions when engaging in a health behavior, because they will be more motivated to incorporate that pleasant behavior into their daily lives to make it an enduring aspect of their lifestyle.

Prioritizing positivity and one's social network and broader context

Although the focus of the dissertation was on the role of prioritizing positivity in the promotion of well-being, in one of the studies featured in Chapter 2 (although not

proposed for the current dissertation), I discovered that people high in prioritizing positivity displayed behavior that might positively influence their social network. Specifically, when given the opportunity to email a thank-you letter that had been written in the laboratory, people high in prioritizing positivity were significantly more likely to do so. This result indirectly suggests that one person's level of prioritizing positivity may actually have downstream consequences for the emotional well-being of the people in his or her social network. Other ways this may manifest include the events and rituals people high in prioritizing positivity create in their own lives, which may well be social. For instance, a weekly workplace 'happy hour' or appreciation ritual that benefits many people may well be the work of one individual who is high in prioritizing positivity.

Prioritizing positivity may affect the individual's social context, but the individual's social context may also affect an individual's prioritizing positivity. For instance, in certain stages of life, society may encourage prioritizing positivity. Young adulthood, particularly in college (in the U.S.), as well as retirement, may be two life stages at which seeking out positivity in day-to-day life may be supported the most. In U.S. society, at least, college is perceived to be one of the best times in people's lives—a time to seize life and enjoy being a young adult before taking on the responsibilities of a full-time job and possible family. Retirement, in contrast, is the time to enjoy letting go of these responsibilities. Further, certain regions of the United States, or even countries in the world, may also support prioritizing positivity more than others. For instance, a city like New Orleans, with the city motto "*Laissez les bon temps rouler*" ("Let the good times roll") may be just the type of place that supports prioritizing positivity.

Conclusion

A decade of research reveals the benefits of happiness for both mental and physical health, and yet recent empirical work suggests that reaching for happiness sabotages the process of attaining it. Further, writers, philosophers, and social commentators alike caution against the pursuit of happiness. Philosopher Thoreau, for instance, wrote that “happiness is like a butterfly; the more you chase, the more it will elude you, but if you turn your attention to other things, it will come and sit softly on your shoulder.” Although the deliberate pursuit of happiness may be tricky, one way to coax Thoreau’s metaphorical butterfly to land on one’s shoulder may be to arrange one’s life to include frequent experiences of positivity, as exemplified by the construct prioritizing positivity. I found in this dissertation that people differ in how much they deliberately arrange their lives to include frequent experiences of positivity, and I presented a six-item scale to measure this individual difference. Prioritizing positivity predicts greater well-being and even how much effort individuals are willing to work for pleasant events.

Even so, prioritizing positivity may not be the only way to pursue happiness. Other ways may include gaining training on how to become more aware of the present moment, via mindfulness meditation, so that we can more readily absorb the positivity that is already present in our lives, albeit unnoticed. Another way to coax the butterfly of happiness to land on one’s shoulder may be to hone our social skills, so that our relationships—a key predictor of our happiness—flourish. The deliberate pursuit of happiness may well be a delicate art, but I provide evidence to suggest that, done correctly, it may be a worthwhile pursuit.

Table 1

Prioritizing Positivity Item Means, Standard Deviations, and Factor Loadings for Studies 1 & 2.

Prioritizing Positivity Item	Sample 1			Sample 2		
	Mean	SD	Standardized Factor Loading	Mean	SD	Standardized Factor Loading
A priority for me is experiencing happiness in everyday life.	7.2	1.6	0.76	7.3	1.6	0.79
I look for and nurture my positive emotions.	7.5	1.3	0.68	6.9	1.7	0.73
What I decide to do with my time outside of work is influenced by how much I might experience positive emotions.	7.5	1.3	0.66	6.6	2.1	0.62
I structure my day to maximize my happiness.	5.4	1.8	0.64	5.6	2.1	0.60
My major decisions in life (e.g., the job I choose, the house I buy) are influenced by how much I might experience positive emotions.	7.0	1.5	0.61	6.9	1.8	0.62
I admire people who make their decisions based on the happiness they will gain.	6.3	1.9	0.45	5.9	2.0	0.57

Note. Means and standard deviations are provided for the untransformed variables; standardized factor loadings are for the transformed variables.

Table 2

Correlations of Prioritizing Positivity with Other Variables: Convergent and Discriminant Validity

Variable	Correlation
Hedonism (Schwarz Values Inventory)	.19*
Affect Valuation Inventory	
Ideal HAP Octant (enthusiastic, excited, strong)	.11
Ideal Positive Octant (happy, satisfied, content)	.16*
Ideal LAP Octant (calm, rested, relaxed, peaceful)	0.09
Excitement-Seeking	.22*
Impulsivity	-.04
Savoring	.45*
Extraversion	.22*
Neuroticism	-.21*
Openness	.13
Agreeableness	.24*
Conscientiousness	.23*

Note. * = $p < .05$. ** = $p < .01$. *** = $p < .001$.

Table 3

Regression coefficients for regression of well-being measures on prioritizing positivity and valuing happiness.

Well-Being Measure	Prioritizing Positivity	Valuing Happiness	Prioritizing Positivity (controlling for Valuing Happiness)	Valuing Happiness (controlling for Prioritizing Positivity)
Positive Emotionality	.44***	-.14*	.51***	-.27***
Satisfaction with Life	.37***	-.23***	.46***	-.35***
Flourishing	.38***	-.24***	.47***	-.36***
Negative Emotionality	-.20**	.16**	-.25***	.23***
Depression	-.29***	.26***	-.38***	.35***

Note. * = $p < .05$. ** = $p < .01$. *** = $p < .001$.

Table 4

Prioritizing positivity predicts resources as mediated by positive emotionality.

Resources	Prioritizing Positivity	Prioritizing Positivity with positive emotions in model	Indirect effect	95% confidence interval
Self-compassion	.26***	.06	.10	(.06-.15)
Ego-Resilience	.38***	.22***	.05	(.03-.08)
Mindfulness	.21***	.03	.08	(.05-.12)
Positive Relations with Others	.32***	.11	.10	(.07-.15)
Illness symptoms	-.13*	-.07	-	-

Note. * = $p < .05$. ** = $p < .01$. *** = $p < .001$.

Table 5

Parameter estimates for the impact of pleasant activities, prioritizing positivity, and their interaction on positive emotion.

Pleasant Activity	Predictors		
	Main effect for pleasant activity vs. neutral activity	Main effect for Prioritizing Positivity	Interaction of Activity and Prioritizing Positivity
Exercise	$\beta = 0.98^{**}, t_{341} = 15.82$	$\beta = 0.08^{**}, t_{199} = 2.67$	$\beta = -0.002, t_{341} = -0.04$
Sexual activity	$\beta = 1.41^{**}, t_{288} = 18.37$	$\beta = 0.09^{**}, t_{199} = 2.86$	$\beta = 0.12^*, t_{288} = 1.93$
Learning something new	$\beta = 0.68^{**}, t_{311} = 11.55$	$\beta = 0.09^{**}, t_{199} = 2.74$	$\beta = 0.006, t_{311} = 0.12$
Helping someone	$\beta = 0.67^{**}, t_{321} = 9.50$	$\beta = 0.08^{**}, t_{198} = 2.64$	$\beta = -0.14^{**}, t_{321} = -2.63$
Hugging someone else	$\beta = 1.30^{**}, t_{327} = 21.31$	$\beta = 0.09^{**}, t_{198} = 2.82$	$\beta = 0.09^*, t_{327} = 1.93$

Notes. ** = significant at $p \leq 0.01$; * = significant at $p \leq 0.05$. Each positive-emotion inducing behavior was examined in a separate model. Each row in the table corresponds to a separate model.

Table 6

Descriptives for attentional bias scores in dot-probe task

Variable	Mean	SD
ShortFace attentional bias score	9.95	21.04
LongFace attentional bias score	-4.31	19.26
ShortIAPS attentional bias score	-1.11	20.95
LongIAPS attentional bias score	1.15	33.96

Table 7

Mean attentional bias scores by condition

Variable	Prioritizing Positivity	Control	<i>t</i> (57)	<i>p</i>
	M	M		
LongFace attentional bias	-0.98 (19.95)	-7.75 (18.23)	1.36	0.18
LongIAPS attentional bias	-0.70 (35.05)	3.07 (33.30)	-0.42	0.67
ShortIAPS attentional bias	8.62 (20.79)	11.33 (21.58)	-0.49	0.63
LongIAPS attentional bias	-0.62 (20.45)	-1.62 (21.82)	0.18	0.86

Table 8

Correlations of Prioritizing Positivity and Attentional Bias

Variable	Correlation
LongFace attentional bias	-0.05
LongIAPS attentional bias	-0.08
ShortIAPS attentional bias	0.05
LongIAPS attentional bias	0.04

Table 9

Indifference Points by Condition

Variable	Prioritizing Positivity	Deprioritizing Positivity	Control	PP vs. Control		DP vs. Control	
	M	M	M	<i>t</i> (94)	<i>p</i>	<i>t</i> (94)	<i>p</i>
Indifference Point when anchored at 0	24.66 (16.90)	21.47 (14.90)	21.03 (15.36)	0.92	0.36	0.12	0.91
Indifference Point when anchored at 15	35.81 (15.66)	36.21 (16.87)	34.29 (16.10)	0.38	0.71	0.49	0.63

Figure 1. Regression of positive emotions on prioritizing positivity.

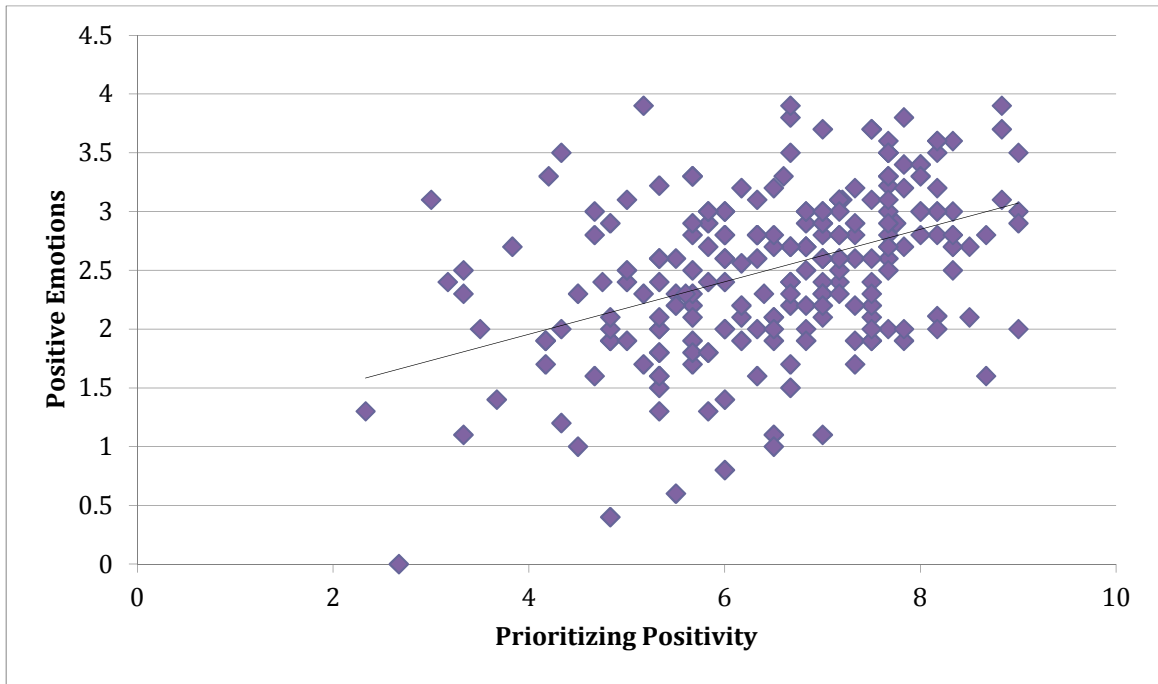
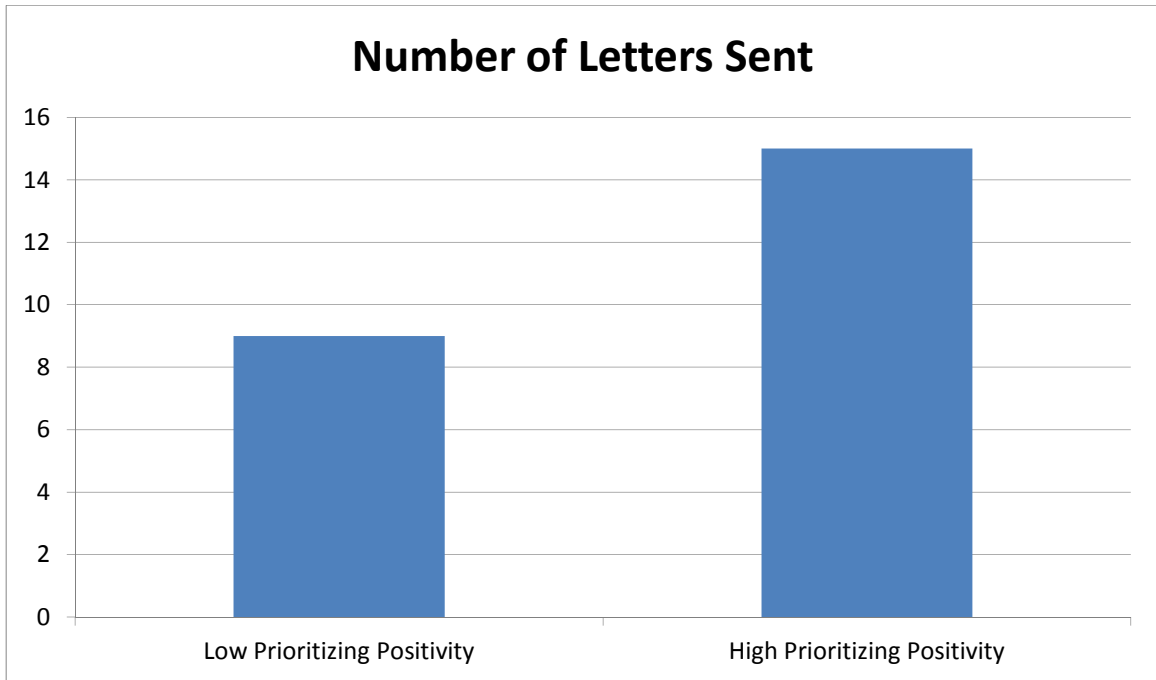


Figure 2. Regression of positive emotions on valuing happiness.



Figure 3. A visual depiction of prioritizing positivity predicting likelihood of sending letters.



APPENDIX

Prioritizing Positivity scale

Instructions: We consider positive emotions to include amusement, awe, excitement, gratitude, hope, interest, joy, love, pride, serenity, and contentment. Using the scale below, please select a response from 1 to 9.

1=Disagree Strongly, 2=Disagree Mostly, 3=Disagree Somewhat, 4=Disagree Slightly, 5=Neither Disagree or Agree, 6=Agree Slightly, 7=Agree Somewhat, 8=Agree Mostly, 9=Agree Strongly

1. A priority for me is experiencing happiness in everyday life.
2. I look for and nurture my positive emotions.
3. What I decide to do with my time outside of work is influenced by how much I might experience positive emotions.
4. I structure my day to maximize my happiness.
5. My major decisions in life (e.g. the job I choose, the house I buy) are influenced by how much I might experience positive emotions.
6. I admire people who make their decisions based on the happiness they will gain.

Manipulation and Control Passages for Study 3

“Reading Comprehension” Passage

The Value of Positive Emotions

For years, psychologists around the world considered positive emotions to be unimportant and unworthy of study. “Positive emotions have been viewed as a naïve or sometimes unhealthy response to the realities of living,” states Michele Tugade, Ph.D., “but more and more research is revealing that positive emotions and our attitudes towards them may in fact be the key ingredients for a healthy and fulfilling life.”

Various studies show that when we feel positive emotions, our thinking becomes more creative and flexible. Alice Isen at Cornell University, for instance, induced positive emotions among physicians during an experiment by giving them a small bag of candy. Then, she supplied physicians with a case of a patient with liver disease and asked them to talk out loud as they formed a diagnosis. Those physicians who felt more positive emotions were more likely to piece together the patient's information faster and carefully consider the possible diagnoses instead of committing hastily to a conclusion. Essentially, the physicians who experienced positive emotions became more effective thinkers and, as a result, better doctors.

In addition to altering our thinking, positive emotions may also protect our bodies from disease. In a recent study at Carnegie Mellon University, Sheldon Cohen and his colleagues exposed a group of people to a rhinovirus or influenza virus and studied their physical symptoms for the following month. The researchers found that people who had a positive emotional style (happy, lively, tranquil) were less likely to develop an upper respiratory illness, compared to people with a less positive emotional style. These results suggest that adopting a positive emotional approach to life may be as worthwhile as taking a multivitamin.

A crystal ball may not help you predict your future, but your college yearbook picture may. LeeAnne Harker and Dacher Keltner examined the college yearbook pictures of a group of women and analyzed their emotional expressions. They found that differences in the women's expression of positive emotions predicted their life outcomes up to 30 years later. Women who expressed more positive emotion in their yearbook pictures by smiling genuinely were more likely – decades later – to have fulfilling marriages, healthier social relations, higher reports of well-being, and fewer psychological and physical problems.

These findings are not only compelling, but also provide a prescription for how to evaluate our positive emotional experiences. So the next time you find yourself experiencing contentment, amusement, or any other positive emotion, know that you may well be paving the way for a life full of rewards. By valuing your positive emotional experiences, you can also “capitalize” on them. That is, relishing your positive emotions may not only enrich and prolong your experiences of positive emotions, but also amplify their beneficial effects for you.

Our positive emotions do more for us than simply make us feel good. They make our thinking more creative and flexible, shield our bodies from disease, and predict the quality of our futures. Furthermore, our attitudes towards positive emotions may amplify our emotional responses and extend their benefits to us. The full value of positive emotions has only just begun to be understood, yet their importance already seems immense.

“Reading Comprehension” Passage

The Neuroscience of Positive Emotions

In recent years, psychologists have been studying the physiological underpinnings of positive emotions, particularly in regards to the brain. “Understanding the neuroscience of positive emotions has largely been a mystery given the lack of appropriate technology,” states Christian Waugh, Ph.D., “but given the advent of fMRI (functional magnetic resonance imaging), PET (positron emission tomography), and other neuroimaging techniques in the past few decades, the neurological basis of positive emotion is beginning to be understood.

Perhaps one of the most consistent findings in the literature is the involvement of the left hemisphere of the prefrontal cortex in the experience of positive emotions. People with lesions in their left prefrontal cortex, for instance, show positive emotion deficits, in comparison to people with no lesions.

Positive emotional experiences are similarly affected when the left prefrontal cortex of participants is temporarily paralyzed. In a study carried out by G. H. Lee, Ph.D. and his colleagues, participants were injected with a barbiturate that paralyzed the left prefrontal cortex. These participants also displayed significant deficits in positive emotions. When the barbiturate eventually wore off, however, participants began experiencing typical levels of positive emotions.

Considering the areas of the brain that are activated during the experience of positive emotion again highlights the role of the left prefrontal cortex. For instance, when people experience positive emotions in the laboratory, they show increased activity in their left prefrontal cortex, in comparison to their right prefrontal cortex.

Further, different patterns of regional brain activity may explain why some people have more positive emotional styles than others. For instance, while resting, people display differences in the amount of activity in their left prefrontal cortex. These differences in activity actually predict differences in emotional styles. That is, people with more left frontal activity are more likely to have a positive emotional approach to life, than people with less left frontal activity.

An area of the brain that has not received much attention in the literature as a site for positive emotions is the basal ganglia. In contrast to the left prefrontal cortex, the basal ganglia is situated in the center of the brain beneath the cortex. Recent research suggests that the basal ganglia may be responsible for encoding patterns of behavior or thoughts that have repeatedly resulted in positive emotional outcomes. Humans with lesions to the left basal ganglia, for instance, often experience particularly low amounts of positive emotion. Similarly, Lane and his colleagues at the University of Rochester discovered that when people experience positive emotions, increased activation in their basal ganglia occurs.

The neurological underpinnings of positive emotions are continuing to be understood and articulated. A steady stream of research seems to indicate that the left hemisphere of the prefrontal cortex is centrally involved in the experience of positive emotion. Less attention has been paid, however, to the role of the basal ganglia in relation to positive emotion. In fact, some theorists argue that the basal ganglia may play more of an indirect role in regulating positive emotional experiences, in comparison to the prefrontal cortex. The neuroscience of positive emotions continues to be a fertile area of research and much work remains to be done.

“Reading Comprehension” Passage

Prosopagnosia

Introducing yourself to people you've already met is pretty embarrassing, especially when those people aren't just acquaintances but your best friends or immediate family.

Such is the case for those suffering from prosopagnosia, or face-blindness, a severe deficit that makes it difficult to recognize and distinguish between faces. Common horror stories include picking up the wrong child from daycare, kicking out of bed a "stranger" who is actually a spouse and, in the most extreme cases, failing to recognize oneself in the mirror. Even watching movies can be a burden: Too many faces make it impossible to keep track of the characters.

People with prosopagnosia can correctly identify other objects such as their cars or their clothes. Their ability is solely limited to the recognition of faces. According to recent research, the right hemisphere of the brain seems to play a central role in face-processing. It was once thought that people with prosopagnosia suffered from lesions in both the right and left hemisphere of the brain, but several case studies suggest that the disorder can result from lesions in the right hemisphere only.

Specifically, research from neuroimaging studies suggest that temporal regions of the right hemisphere are particularly important for face recognition and differentiation. In a study in which participants completed a face-recognition task, the anterior areas of the fusiform gyrus and the parahippocampal gyrus became active. In other studies, these areas also were activated when participants were asked to think of biographical information about the faces.

Until recently, only a few hundred cases had been documented. But using an Internet-based diagnostic test, researchers at Harvard University and University College London now estimate that up to 2 percent of us live with some degree of the disorder. That figure, released in May, corresponds with another recent estimate made by researchers in Germany.

Prosopagnosia develops in two ways. With acquired prosopagnosia, the more common form, individuals become aware of the problem shortly after brain injury or stroke, often later in life.

Developmental prosopagnosia, on the other hand, appears early and occurs without brain damage. Comparable to the color-blind, developmental prosopagnosics don't realize they have the condition until tested. But testing is unlikely, given that "there is almost no awareness in the medical community and the public at large that such a deficit exists," says Ken Nakayama, one of the Harvard researchers.

A gene for face-blindness has not been identified, but the condition may run in families. Nakayama says 20 percent of his survey respondents reported having family members with similar problems.

No therapies exist to improve recognition, so prosopagnosics must rely on non-facial cues to identify people. They rely upon information such as a person's weight, hairstyle, clothing, mannerisms or voice. Piercing, tattoos and scars are useful too. But such a strategy has its limits, as people can alter their hair, change their clothes, remove their piercing.

Manipulation and Control Passages for Study 4



[Mind Matters](#) – January 29, 2012

Prioritizing Happiness Could be Beneficial

By Francesca Orbizzi

What is the best way to organize our lives? Scientific evidence suggests that when we make decisions in life—both large and small—about how to spend our time we should take into account our potential happiness. For example, a recent study by Andrea McDevitt at the University of Arizona found that how people choose to spend their time outside of work has important consequences. People who decide to engage in activities because they might feel positive emotions (e.g. interest, amusement) fare the best. They experience more vitality, less stress and display lower levels of inflammation in the body—a biological indicator of physical health. Her research, however, suggests that it does not work just to try and “be happy” all the time, but rather to make plans to engage in activities that could make one happy.

In the text box below, please make an argument for why one’s potential happiness should be one of the primary considerations when making decisions about which activities to engage in after work or deciding which career to pursue. Feel free to call upon personal examples from your own life and other people you know, as well as basic logic. The length of the arguments should be about 1-2 paragraphs long.



[Mind Matters](#) – January 29, 2012

Prioritizing Happiness Could be Dangerous

By Francesca Orbizzi

What is the best way to organize our lives? Scientific evidence suggests that when we make decisions in life—both large and small— about how to spend our time it could be quite dangerous to take into account our potential happiness. For example, a recent study by Andrea McDevitt at the University of Arizona found that how people choose to spend their time outside of work has important consequences. People who decide to engage in activities because they might feel positive emotions (e.g. interest, amusement) fare the worst. They experienced less vitality, more stress and display higher levels of inflammation in the body—a biological indicator of ill health. Her research suggests that it does not work to make plans to do things that could make one happy; in fact it makes people less happy.

In the text box below, please make an argument for why one's potential happiness (or other people's happiness) should NOT be one of the primary considerations when making decisions about which activities to engage in after work or deciding which career to pursue. Feel free to call upon personal examples from your own life and other people you know, as well as basic logic. The length of the arguments should be about 1-2 paragraphs long.



[Mind Matters](#) – January 29, 2012

The Neuroscience of Happiness

By Francesca Orbizzi

In recent years, psychologists have been studying the physiological underpinnings of happiness, and perhaps some of the most consistent findings in the literature is the involvement of the left hemisphere of the prefrontal cortex. For instance, when people are induced to feel happy in the laboratory, they show increased activity in their left prefrontal cortex, in comparison to their right prefrontal cortex.

Similarly, when the left prefrontal cortex is temporarily paralyzed, positive emotions are affected. In a study carried out, participants were injected with a substance that paralyzed the left prefrontal cortex. These participants also displayed significant deficits in positive emotions (e.g. interest, amusement). When the substance eventually wore off, however, participants began experiencing typical levels of positive emotions.

In the text box below, please make an argument for why continuing to do scientific research on the brain is worthwhile. Feel free to call upon personal examples from your own life and other people you know, as well as basic logic. The length of the arguments should be about 1-2 paragraphs long.

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