Up-regulating positive emotions in everyday life: Strategies, individual differences, and associations with positive emotion and well-being

Kimberly M. Livingstone *, Sanjay Srivastava

Department of Psychology, University of Oregon, USA

ABSTRACT

This research aimed to identify strategies people use to up-regulate positive emotions, and examine associations with personality, emotion regulation, and trait and state positive experience. In Study 1, participants reported use of 75 regulation strategies and trait emotional experience. Principal component analysis revealed three strategy domains: engagement (socializing, savoring), betterment (goal pursuit, personal growth), and indulgence (substance use, fantasy). In Study 2, participants reported state-level regulation and emotional experience. Engagement correlated with greater state and trait positive emotion, and overall greater well-being. Betterment correlated with less state, but greater trait, positive emotion. Indulgence correlated with greater state, but less trait positive emotion and overall lower well-being. This research suggests trade-offs between short-term and long-term emotional consequences of different strategies.

© 2012 Elsevier Inc. All rights reserved.

1. Introduction

Happiness is an important goal for most people (e.g., Diener, 2000), and central to the pursuit of this goal are the ways in which people seek out and maintain positive experiences. The goal of the present research was to investigate the up-regulation of positive emotions—the strategies that people use to create, maintain, and enhance emotions such as joy, contentment, and pride. Broadly, emotion regulation is defined as the set of processes by which individuals influence which emotions they have, when they have them, and how they experience and express them (Gross, 1998b). Although people occasionally decrease positive emotions or increase negative ones (Parrott, 1993; Tamir, 2005), the majority of emotion regulation efforts in everyday life aim to decrease negative or increase positive (Gross, Richards, & John, 2006). To date, research on the former has far outpaced the latter. There is now a substantial body of research that investigates the strategies by which individuals cope with or regulate their negative feelings in everyday life (e.g., Morris & Reilly, 1987; Thayer, Newman, & McClain, 1994), but we know relatively less about strategies by which people seek out or increase positive emotions.

A person may up-regulate positive emotions to offset or reduce negative emotion, or to increase positive emotion for its own sake. To the extent that positive up-regulation has been studied, much of that research has focused on how people do so in the context of repairing negative moods and emotions. Positive emotions can buffer people from stress (Folkman & Moskowitz, 2000) and help people recover from the physiological and psychological effects of negative emotions (Fredrickson & Levenson, 1998). Mood regulation strategies such as humor and finding positive meaning (Larsen & Prizmic, 2004) and coping strategies such as positive reappraisal and creating positive sensory events (Shiota, 2006) can be used to mitigate negative emotions by introducing or increasing positive emotions.

People also up-regulate positive emotions for their own sake, however, and such processes may have their own distinctive characteristics. For example, savoring is a form of positive emotion up-regulation that involves paying attention to and appreciating past, present, or future positive experiences (Bryant, 2003). Savoring is distinct from negative emotion down-regulation, and people have related but separate beliefs regarding their abilities to avoid and cope with negative experiences and their abilities to obtain and savor positive experiences (Bryant, 1989).

Why would people use emotion regulation to increase or maintain their positive emotions? Positive emotions are pleasurable, of course. But in addition, research suggests that the frequent experience of positive affect has short and long-term benefits for psychological adaptation. Fredrickson's (1998) Broaden-and-Build model of positive emotions proposes that positive emotions such as joy, interest, and contentment serve to broaden the scope of attention, cognition, and action, and build long-term physical, cognitive, and social resources. Not only can positive emotions serve to "undo" the physiological and psychological consequences of negative emotion (Fredrickson & Levenson, 1998), but the

cultivation of positive emotions may also initiate an "upward spiral" that enhances resilience and well-being in the long-term (Fredrickson, 2000). In other words, not only do personal and social successes cause happiness, but happiness can also cause personal and social success (Lyubomirksy, King, & Diener, 2005). Successful positive emotion up-regulation, therefore, should be associated with both short- and long-term well-being.

The purpose of the research presented here is to begin to build an integrative framework for the diverse ways that people go about trying to increase positive emotions in their daily lives. Previous, related efforts have sought to derive a classification system of mood repair strategies (Parkinson & Totterdell, 1999; Thayer et al., 1994) and strategies to increase happiness, broadly defined (Tkach & Lyubomirsky, 2006; see also Henrickson & Stephens, 2012). Our broad aim was to complement this previous research with a more specific focus on strategies for up-regulating positive emotions. We organized our efforts around three goals: identifying positive emotion up-regulation strategies, examining associations with personality traits and related emotion regulation constructs, and exploring relationships with trait and state positive experience and well-being.

First, to identify a diverse set of positive emotion up-regulation strategies that people use in everyday life, we drew both upon psychological theories and research and on the actual experiences of participants. We began with a top-down approach, examining psychological theories and research on emotion regulation, mood repair, and happiness-seeking, and looking for activities and strategies that were specifically relevant to the up-regulation of positive emotions. From this review we created a set of items representing strategies that have already been identified in the psychological literature.

However, this top-down, theory-driven approach might not be sufficient on its own. Research in the coping domain has been criticized for being "theory saturated," imposing a finite list of theory-driven strategies on participants (Coyne & Gottlieb, 1996). Moreover, research and theory on positive emotion regulation are relatively new, and a review of the literature was unlikely to yield a comprehensive list of positive up-regulation behaviors. We therefore expanded this list by also taking a bottom-up approach: asking research participants to nominate strategies that they use in everyday life. We anticipated that there would be some overlap with our top-down list, but that participants might also identify strategies that have not yet received empirical attention and therefore help make our list more comprehensive.

We then sought to organize these concrete strategy items into broader strategy domains and compare their associations with personality traits, emotions, and well-being. We asked a second group of participants to rate how frequently they use each of these strategies in their daily lives. We used principal components analysis to see whether we could identify a higher-order structure that represents more general strategy domains that people use to up-regulate their positive emotions. Research in related areas (e.g., Tkach & Lyubomirsky, 2006) have empirically identified several different strategies by which people seek to manage their moods and emotions. Therefore, we expected that there might be several distinguishable (though perhaps correlated) strategy domains by which people seek out and increase positive emotions.

The second goal was to begin to establish a nomological network for positive up-regulation – to establish that positive up-regulation is distinct from negative down-regulation, and to examine relationships with theoretically relevant individual difference variables. At the outset, it was important to establish that up-regulation of positive emotions is a distinct construct, and not merely a component of negative emotion regulation or negative mood repair. Because individuals can draw upon positive emotions in order to cope with negative experiences (Folkman & Moskowitz, 2000;

Shiota, 2006; Tugade & Fredrickson, 2004), we did not expect positive up-regulation and negative down-regulation to be wholly unrelated. On the other hand, the processes by which negative and positive emotions are regulated are not conceptually redundant, and we hypothesized that they would be empirically distinguishable. Specifically, the ways in which people down-regulate their negative emotion should be correlated with the ways in which they up-regulate positive emotion, but the correlations should not be so strong as to imply redundancy (i.e., the correlations should be moderate in size, and lower than the internal consistency of a given scale).

To help map positive up-regulation in relation to other individual differences, we examined differential associations between the positive up-regulation strategies and the Big Five personality factors. Of particular interest was extraversion, which is broadly associated with experiencing greater positive emotions (Watson & Clark, 1997). Several studies have suggested that extraverts derive at least some of their positive experiences through social interactions (Ashton, Lee, & Paunonen, 2002; Srivastava, Angelo, & Vallereux, 2008). Moreover, other research suggests that extraverts are more likely to maintain a positive mood, compared to introverts (Lischetzke & Eid, 2006). These findings suggest that extraversion will be associated with greater use of positive up-regulation strategies that involve socializing with others, but may also be related to up-regulation in general.

We also examined individual differences in optimism and self-esteem. Optimism is of interest because optimists maintain more favorable outcome expectancies than pessimists, which may be a way to maintain positive affect (Carver & Scheier, 2002). When measured as a trait, however, optimism represents an enduring cognitive pattern, and should therefore be related to, but not redundant with, positive up-regulation, which is a process that is theorized to alter emotions. Self-esteem is of interest because people who have lower self-esteem dampen positive emotions more than those with higher self-esteem. Evidence that people with higher self-esteem are more likely to savor their positive emotions is mixed (Wood, Heimpel, & Michela, 2003), however, so we sought to examine whether self-esteem is related to everyday positive emotion up-regulation. Again, we predicted that relationships between strategy domains and individual differences (Big Five traits, optimism, and self-esteem) would be moderate in size.

The third goal was to examine relationships between positive emotion regulation strategies and emotional experience and well-being. One distinction that might emerge is differences among positive up-regulation strategies in their relationship to the positive emotions they are intended to increase. Differences in effectiveness are important to document. For example, research on the down-regulation of negative emotions has shown that not all strategies are equal in their effects. Cognitive reappraisal is generally an adaptive way to change a negative emotional state, whereas expressive suppression can actually increase the experience of negative emotions (e.g., Gross & John, 2003). Likewise, different coping strategies (e.g., positive sensory events vs. distraction) have different relationships with positive and negative affect (Shiota, 2006). We hypothesized that something similar might be true of positive up-regulation – that is, that some strategies might be strongly correlated with positive emotions, whereas others only weakly or inversely correlated. Some activities, such as spending time socializing with others, already have well-established links with greater experience of positive emotion (e.g., Srivastava, Tamir, McGonigal, John, & Gross, 2009). In particular, those strategies that build long-term personal and social resources (Fredrickson, 2000) should be related to both state and trait positive emotion. In addition, the experience of positive emotion is one important component of subjective well-being (Diener, 1984), and therefore, those strategy domains that are more closely related to trait

positive emotions might also be related to other aspects of positive functioning, such as greater life satisfaction.

In addition, we tested whether the positive emotion regulation strategy domains are related to trait negative emotion. Because of the buffering effect of positive emotions against stress and negative emotion (Tugade & Fredrickson, 2004), greater use of effective up-regulation strategies should also be associated with less negative emotion, lower levels of perceived stress, and fewer depressive symptoms. It is also possible, however, that some strategies elicit positive emotions at the expense of long-term well-being. Activities such as comfort eating, alcohol consumption, and shopping may offer short-term positive emotion, but at a long-term cost (financially, physically, or socially; Deaver, Miltenberger, Smyth, Meidinger, & Crosby, 2003; Kasser, 2003). These strategies that emphasize immediate gratification may be positively correlated with trait negative emotion. Conversely, goal pursuit often requires delay of gratification, or a temporary suppression of positive emotions in order to seek later rewards (Freitas & Salovey, 2000). People may even feel temporarily agitated, frustrated, or angry while they are pursuing approach goals – even though completing approach goals is rewarding, and people with active approach systems tend to experience greater trait-level positive affect (Carver, 2004). We therefore examined relationships between positive up-regulation domains and positive and negative emotion at both the trait and state level, as well as other measures of well-being.

To address these goals, we conducted three studies. In a preliminary study, we identified the strategies that individuals use to create, maintain, or increase their positive emotions, by asking participants to nominate the strategies that they personally use. We used these participant-nominated activities to supplement a list of activities derived from the literature. In Study 1, we used principal components analysis to identify higher-order strategy domains from the list of strategies, and examined the degree to which they relate to mood repair and emotion regulation, specific personality traits, and trait-level positive and negative emotions and well-being. In Study 2, we replicated the key correlations with positive and negative emotions and well-being. We also asked participants to complete a day reconstruction diary, to report on their state-level use of positive up-regulation strategies and positive and negative emotions over the course of a single day.

2. Preliminary study

To gather an initial list of positive emotion up-regulation strategies, we examined theories and research in the domains of emotion regulation, mood repair, and happiness-seeking. Gross's (1998b) process model of emotion regulation proposes that people can regulate their emotions at different stages of the emotional processes, from choosing situations to enter based on their expected emotional implications, to directing attention and appraisals, to changing one's behavioral response to a full-blown emotion. Whereas research on negative down-regulation has focused on the latter strategies, particularly cognitive reappraisal and the suppression of emotional expression, we speculated that positive up-regulation might also involve the earlier stages.

From Gross's (1998b) theory on emotion regulation literature, we generated items to represent situation selection (e.g., put myself in a situation I know will make me feel good), situation modification (e.g., direct the conversation to positive things), attentional deployment (e.g., pay attention to the nice things I see or hear around me), cognitive change (e.g., change the way I'm thinking about the situation), and response modulation (e.g., share positive emotions with others). To address already established forms of positive emotion-regulation, we included Bryant's (2003) savoring strategies: reminiscing about the past, savoring the present moment, and anticipating the future.

Research on mood repair and coping suggests that some strategies draw on positive experiences in order to recover from negative ones (Parkinson & Totterdell, 1999; Shiota, 2006). Such strategies produce affectively positive thoughts and activities that are incompatible with negative moods, so that the negative mood dissipates more quickly (Erber, 1996; Fredrickson & Levenson, 1998). Compared to other mood repair strategies such as venting, active forgetting, or acceptance, which might merely return people to an affectively neutral state, these mood repair strategies are likely to leave people in an affectively positive state. It is therefore possible that people also engage in these activities in the absence of negative emotions, to create positive emotions for their own sake.

From the mood repair literature, we identified those strategies most likely also be used to create positive emotions: "seeking pleasurable activities and distraction" (e.g., use humor, work on a hobby; Thayer et al., 1994); relaxation-oriented strategies (e.g., meditation, lying in the sun), pleasure-oriented activities (e.g., fantasizing about pleasant things, doing enjoyable things), and mastery-oriented activities (e.g., planning things to do, doing something you've been putting off; Parkinson & Totterdell, 1999); as well as ruminating on the positive (e.g., expressing gratitude, counting one's blessings) and helping others (Larsen & Prizmic, 2004).

Research on well-being also suggests activities designed to up-regulate positive emotions. For example, socializing with others is robustly associated with the experience of greater positive emotions (e.g., Srivastava et al., 2008), as is making progress toward and achieving goals (Carver & Scheier, 1990). It is likely that people seek out these activities in order to elicit positive emotions. Therefore, we turned to the well-being research, including well-being interventions, to find strategies that people might use to up-regulate their positive emotions.

From the happiness-seeking literature (Tkach & Lyubomirsky, 2006) we added social affiliation activities (e.g., seeking friends to spend time with), instrumental goal pursuit (e.g., accomplish things), passive leisure (e.g., watch TV), active leisure (e.g., exercise), religion (e.g., pray), and direct attempts (e.g., smile, act happy)—strategies that are likely to elicit short-term positive emotions. We also drew from research on happiness-increasing interventions such as using signature strengths (Seligman, Steen, Park, & Peterson, 2005) and imagining your best possible self (Sheldon & Lyubomirsky, 2006).

To complement our top-down, theory-based approach to generating items, we also conducted a preliminary study in which we asked participants to list strategies that they use to up-regulate positive emotions.

2.1. Participants and procedure

Participants were $N = 109$ undergraduates (77 females, 32 males; $M_{age} = 19.97$, $SD = 3.79$; 85% European American, 10% Asian/Asian American, 3% Hispanic) from a university subject pool, who completed this study online and were compensated with credit toward an introductory psychology or linguistics class. Participants were asked to list up to five strategies that they have used to (1) create, (2) maintain, and (3) enhance positive emotions (thus, up to 15 strategies were possible).

2.2. Results

We combined similar responses to reduce redundancy. Most responses were more general than specific (e.g., "think of something that makes me happy" rather than "think of chocolate cake"). In the cases in which both general and specific behaviors were included (e.g., "do something that I enjoy, like horseback riding"), the general activity was retained.

After combining answers that we judged to be overlapping or redundant, the question "How do you create positive emotions?" yielded 43 distinct strategies. The most common responses were spending time with friends ($n = 55$), participating in a favorite activity ($n = 48$), eating ($n = 36$), helping others ($n = 29$), and exercising ($n = 28$). Though behavioral responses were more common, several cognitive strategies were listed: Reminiscing about happy times ($n = 25$), thinking positively ($n = 22$), thinking about things that make them happy ($n = 15$), and anticipating upcoming events ($n = 8$) were the most commonly reported cognitive strategies. The final list of positive emotion up-regulation strategies included 75 strategies (see Appendix A), which were transformed into questionnaire items for Study 1.

Because research on the up-regulation of positive emotion is relatively new, we did not try to distinguish between the creation, maintenance, and enhancement of positive emotions; rather, we examined "up-regulation" more broadly. In the preliminary study, there was a significant amount of overlap in nominations among the three categories, which suggests that in daily life the distinction may not be critical. Moreover, because the experience of emotion is brief, if a person wished to experience greater positive emotions, it is likely two or that all three goals will exist simultaneously (e.g., to create and then maintain).

3. Study 1

Study 1 aimed to answer four questions: (a) What higher-order domains emerge from a list of concrete emotion regulation strategies? (b) Are positive emotion up-regulation strategies distinct from mood repair and negative emotion regulation? (c) What individual differences are associated with use of the various strategies? and (d) How is habitual use of the strategies related to trait positive and negative emotion and well-being?

We anticipated that the larger number of concrete strategies could be reduced to a smaller number of strategy domains, and that the use of such strategies is related to stable individual-difference variables such as extraversion, self-esteem, and optimism, as reviewed earlier. Moreover, we expected that the differential use of such strategies is related to the degree to which people typically feel positive and negative emotions, as well as their global functioning and well-being. Specifically, those strategies that build long-term resources would be most likely to be related to trait positive emotion and well-being.

3.1. Method

3.1.1. Participants and procedure

Participants were 270 undergraduates (69% female, 31% male; 78% European American, 10% Asian/Asian American, 10% Hispanic) who were compensated with credit toward an introductory psychology or linguistics class. The participants ranged in age from 17 to 42 ($M = 20.26$, $SD = 3.03$). Participants signed up for the study online, knowing only that it was an hour-long online study, and were directed to the website to complete the survey.

3.1.2. Measures

The measures included the inventory of positive emotion regulation strategies generated in the preliminary study, as well as standard measures of emotion regulation, personality, trait emotional experience, and well-being.

To measure use of positive emotion up-regulation, we converted the 75 strategies gathered from our literature review and the preliminary study into a questionnaire, in which participants were asked how often they used each behavior "specifically to create or enhance positive emotions (such as joy, contentment, pride,

or love)" (see Appendix A). Responses ranged from 1 (*never*) to 5 (*very often*).

To measure emotion regulation, we assessed cognitive reappraisal ($\alpha = .87$) and expressive suppression ($\alpha = .74$) using the 10-item Emotion Regulation Questionnaire (Gross & John, 2003). Negative mood repair ($\alpha = .78$) was measured using the 6-item mood repair subscale of the Trait Meta-Mood Scale (Salovey, Mayer, Goldman, Turvey, & Palfai, 1995).

The Big Five personality factors of extraversion ($\alpha = .86$), agreeableness ($\alpha = .81$), conscientiousness ($\alpha = .78$), neuroticism ($\alpha = .80$), and openness ($\alpha = .80$) were measured by the 44-item Big Five Inventory (John & Srivastava, 1999). Self-esteem ($\alpha = .91$) was measured by the 10-item Rosenberg Self-Esteem questionnaire (Rosenberg, 1965). Dispositional optimism ($\alpha = .86$) was measured by the 10-item Life Orientation Test (Scheier, Carver, & Bridges, 1994).

Participants completed items measuring trait positive emotions (amusement, hope, interest, joy, love, pride) and trait negative emotions (anger, anxiety, guilt, loneliness, sadness, and stress). These items were combined to create composite measures of trait positive emotion ($\alpha = .81$) and negative emotion ($\alpha = .87$).

We measured several indices of well-being. Life satisfaction ($\alpha = .90$) was measured using the 5-item Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985). Depressive symptoms ($\alpha = .64$) were measured by the 20-item Center for Epidemiological Studies – Depression questionnaire (Radloff, 1977). Stress ($\alpha = .73$) was measured by the 4-item Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983). Perceived social support ($\alpha = .89$) was measured by the Interpersonal Support Evaluation List (Cohen & Hoberman, 1983).

3.2. Results

3.2.1. Principal component analysis of positive emotion regulation strategies

To reduce the large number of positive emotion-promoting strategies to a smaller number of higher-order strategy domains, we analyzed the 75 strategies with a principal components analysis with oblique (Oblimin) rotation.[1] The scree plot showed an elbow after three components, which explained 25.6%, 4.6%, and 4.3% of the variance. Item loadings for these three components are presented in Table 1. The first component included items describing savoring the present moment (e.g., just let myself feel good, look on the bright side of things) and social interactions with others (e.g., seek out positive people, share positive emotions with others); we named this component *engagement*. The second component included items describing goal pursuit and personal growth (e.g., use my talents to accomplish something, think about how to make myself a better person, work towards a goal) and religious and spiritual development (e.g., meditate, consult my faith, engage in a religious activity); we named the second component *betterment*. The third component included items describing seeking immediate reward (e.g., drink alcohol, seek praise, buy something for myself) and fantasy (fantasize or daydream, use imagery); we named the third component *indulgence*.

We created three strategy domain scales based on the three principal components. Scale scores were calculated as the means of the items that loaded above .40 (15 items for engagement, 12 for betterment, and 11 for indulgence). Cronbach's alphas for the three strategy scales indicated acceptable internal consistency ($\alpha = .92$ for engagement, $\alpha = .80$ for betterment, and $\alpha = .74$ for indulgence). To aid in interpretation of means, the scale scores

---

[1] Loadings for the orthogonal (Varimax) rotation were nearly identical, and because the strategies were expected to be positively correlated, the oblique factor loadings were retained.

Table 1
Rotated loadings for principal components analysis with oblique rotation of positive emotion regulation strategies.

Item	Engagement	Betterment	Indulgence
Just let myself feel good	**.75**	−.14	−.06
Concentrate on positive things happening around me	**.74**	.21	−.16
Put myself in a situation I know will make me feel good[a]	**.73**	−.11	−.16
Seek out positive people	**.72**	.00	.08
Savor the moment[a]	**.69**	.10	.01
Express positive emotions by smiling or laughing	**.69**	−.20	.01
Think about feeling good	**.68**	−.01	.05
Share positive emotions with others	**.66**	.11	−.01
Think of things that make me happy	**.65**	−.07	.01
Think of future events I'm looking forward to[a]	**.64**	−.18	.09
Look on the bright side of things	**.62**	.18	−.22
Seek out a friend or friends[a]	**.62**	−.29	.13
Seek out support and encouragement[a]	**.58**	−.11	.13
Direct conversations to pleasant things[a]	**.57**	.13	−.03
Think about the things that are good in my life	**.55**	.27	.02
Use my talents to accomplish something[a]	.11	**.57**	.23
Change the way I think about a situation	.33	**.56**	−.14
Meditate or engage in spiritual practices[a]	−.20	**.55**	.04
Consult my faith[a]	−.02	**.54**	.09
Engage in religious activity[a]	−.08	**.51**	−.11
Take a challenge to the next level[a]	.10	**.50**	.28
Accomplish something I've been putting off[a]	.29	**.48**	−.08
Finish a task or work towards a goal[a]	.23	**.45**	.04
Think about what I'm grateful for	**.40**	**.43**	−.06
Think about how to make myself a better person	.30	**.42**	.19
Work on a hobby	.18	**.42**	−.03
Think about new goals to pursue	.15	**.41**	.34
Drink alcohol[a]	−.07	−.19	**.64**
Seek praise from others[a]	−.04	.10	**.58**
Buy something for myself[a]	−.02	.01	**.52**
Drink coffee or a caffeinated beverage/energy drink[a]	.01	.04	**.51**
Dress up or make myself look good	**.44**	−.14	**.46**
Put off chores or duties[a]	−.18	−.22	**.43**
Fantasize or daydream[a]	.15	.02	**.43**
Think of people who are worse off[a]	−.16	.23	**.43**
Seek physical comfort	.33	−.06	**.42**
Use imagery	.21	.25	**.41**
Go out dancing or partying	.31	−.18	**.41**
Variance explained	**25.6%**	**4.61%**	**4.28%**

Note: Loadings >.40 are in boldface. Items that did not load above .40 on any component were omitted.
[a] Item was used in Study 2 episodes.

were each transformed to range from a minimum possible 0 to a maximum possible 100.

There were gender differences in two of the strategy scales: Women reported using more engagement ($M = 73.79$, $SD = 13.64$) than men ($M = 66.54$, $SD = 14.83$), $t(272) = −3.95$, $p < .001$, and more indulgence ($M = 57.09$, $SD = 13.83$) than men ($M = 52.14$, $SD = 15.26$), $t(272) = −2.65$, $p = .01$. There were no gender differences in use of betterment.

The strategy scales were moderately correlated with each other: Indulgence and betterment correlated at $r = .32$, indulgence and engagement correlated at $r = .43$, and engagement and betterment correlated at $r = .52$. Together with the large amount of variance explained by the first component (25.6%) compared to the second and third components (4.6% and 4.3%, respectively), this could suggest a hierarchical model with a higher-order factor of general positive up-regulation. We decided to focus on the three-component structure based on the scree plot and because the three rotated components are interpretable and, as reported below, each have unique correlations with personality and affective traits (Fabrigar, Wegener, MacCullum, & Strahan, 1999). Because of the inter-correlations among strategies, in the following analyses and in Tables 2 and 3, we present both zero-order (r) and partial correlations (pr), the latter to show unique associations with each strategy scale.

Table 2
Zero-order and partial correlations between positive emotion regulation strategies, emotion regulation variables, personality traits, and individual differences.

Scale	Engagement		Betterment		Indulgence	
	r	pr	r	pr	r	pr
Emotion regulation						
ERQ reappraisal	.46*	.37*	.38*	.19*	.07	−.18*
ERQ suppression	−.20*	−.23*	−.03	.06	.02	.13
TMMS mood repair	.59*	.61*	.30*	.03	.02	−.36*
Big Five traits						
BFI extraversion	.46*	.34*	.25*	.05	.20*	.01
BFI agreeableness	.25*	.35*	.03	−.09	−.17*	−.30*
BFI conscientiousness	.24*	.32*	.12	.00	−.13	−.27*
BFI neuroticism	−.22*	−.31*	−.13	−.10	.21*	.39*
BFI openness	.14	.04	.20*	.10	.13	.09
RSE self-esteem	.32*	.33*	.17*	.05	−.07	−.27*
LOT optimism	.37*	.39*	.18*	.01	−.08	−.27*

Note: N = 270. Partial *r* (*pr*) controls for shared variance among the three strategies. ERQ = Emotion Regulation Questionnaire, TMMS = Trait Meta-Mood Scale, BFI = Big Five Inventory, RSE = Rosenberg Self-Esteem, LOT = Life Orientation Test.
* *p* < .05.

3.2.2. Associations with related individual-difference constructs

To better understand the nomological network of the three positive up-regulation strategy domains, we examined their associations with strategies for down-regulating negative emotions, and with other individual differences that would help us understand and interpret the strategies.

Table 3
Zero-order and partial correlations between positive emotion regulation strategies, trait emotions, and well-being in Studies 1 and 2.

Scale	Engagement				Betterment				Indulgence			
	Study 1		Study 2		Study 1		Study 2		Study 1		Study 2	
	r	pr	r	pr	r	pr	r	pr	r	pr	r	pr
Positive emotion	.57*	.53*	.50*	.47*	.29*	.00	.22*	−.15	.15*	−.17*	.25*	.00
Negative emotion	−.32*	−.42*	−.12	−.26*	−.15	−.03	.05	.07	.20*	.42*	.15	.23*
SWLS life satisfaction	.40*	.36*	.38*	.37*	.22*	.07	.17	−.07	−.06	−.26*	.13	.09
CESD depression	−.14	−.28*	–	–	.07	.10	–	–	.24*	.31*	–	–
PSS perceived stress	−.35*	−.40	–	–	−.11	.05	–	–	.08	.26*	–	–
ISEL social support	.32*	.37*	–	–	−.01	−.23*	–	–	.05	−.07	–	–

Note: Study 1 N = 270. Study 2 N = 176. Partial r (pr) controls for shared variance among the three strategies. SWLS = Satisfaction with Life Scale; CESD = Center for Epidemiological Studies – Depression; PSS = Perceived Stress Scale; ISEL = Interpersonal Support Evaluation List. CESD, PSS, and ISEL were not measured in Study 2.
* $p < .05$.

Correlations among the three positive emotion regulation strategies and with other forms of emotion regulation are presented in Table 2. We expected the positive up-regulation strategies to be positively correlated with reappraisal, suppression, and mood repair, but not so highly correlated as to suggest that the constructs were redundant. Reappraisal is a strategy in which potentially negative experiences are reframed as neutral or positive. Consistent with this construct definition, engagement correlated positively with cognitive reappraisal (r = .46), even when betterment and indulgence were partialled out (pr = .37). Suppression is a strategy in which emotionally expressive behavior is inhibited, and it is associated with social disengagement (Srivastava et al., 2009); engagement correlated negatively with expressive suppression (r = −.20, pr = −.23). In addition, engagement was positively correlated with mood repair, r = .59 (pr = .61). This correlation was somewhat high, but this was unsurprising, since a number of the items in the engagement scale were drawn from the mood repair literature, and the mood repair scales include items about evoking positive emotions to counteract negative moods.

Betterment was positively related to cognitive reappraisal (r = .38, pr = .19), though its correlation with expressive suppression was close to zero (r = −.03, pr = .06). Betterment was also related to negative mood repair (r = .30), but after partialling out its overlap with engagement and indulgence, this relationship was small (pr = .03) and not significantly different from zero.

Indulgence was not significantly related to other measures of emotion regulation and mood repair in the zero-order correlations. However, when controlling for engagement and betterment, indulgence had significant negative associations with cognitive reappraisal (pr = −.18) and mood repair (pr = −.36), indicating that when the other two strategy domains are held constant, indulgence strategies are associated with maladaptive emotion regulation.

The correlations of the three positive regulations strategies with Big Five personality traits, self-esteem, and optimism are reported in Table 2. People who use more engagement to regulate their positive emotions can be described as more extraverted (r = .47, pr = .34), agreeable (r = .26, pr = .35), conscientious (r = .25, pr = .32), optimistic (r = .38, pr = .39), less neurotic (r = −.22, pr = −.31), and higher in self-esteem (r = .32; pr = .33), even when controlling for the other two strategies. Individuals who use more betterment to regulate positive emotions tended to be more extraverted (r = .25), open to experience (r = .20), and optimistic (r = .18); but the weak partial correlations suggested that these associations were related to a general positive regulation factor and not distinctive to betterment. Individuals who use more indulgence strategies to regulate positive emotions were more extraverted (r = .20; pr = .18) and less agreeable (r = −.17, pr = −.30). They also scored higher on neuroticism (r = .21, pr = .39). When controlling for engagement and betterment, indulgence was negatively correlated with optimism (pr = −.27).

3.2.3. Associations with emotions and well-being

Correlations between the three strategies and measures of trait emotion and well-being are reported in Table 3. Engagement was associated with the experience of greater trait positive emotion (r = .57, pr = .53) and with less trait negative emotion (r = −.30, pr = −.44). The partial correlations show that these relationships were consistent when controlling for betterment and indulgence. Moreover, these correlations remained significant when controlling for mood repair, reappraisal, suppression, betterment and indulgence (positive emotion: pr = .29; negative emotion: pr = −.19). Engagement was also correlated with greater life satisfaction (r = .40, pr = .36), less perceived stress (r = −.35, pr = .40), and greater perceived social support (r = .32, pr = .37), and when controlling for betterment and indulgence, it was related to fewer depressive symptoms (pr = −.18).

Betterment had positive zero-order correlations with trait positive emotion (r = .29) and a small negative zero-order correlation with negative emotions (r = −.15), which were not significant when controlling for engagement and indulgence. Nor was betterment associated with positive (pr = .03) or negative emotion (pr = −.04) when controlling for negative down-regulation. Betterment was also associated with greater life satisfaction (r = .22), but not when controlling for other strategies (pr = .07). When controlling for engagement and indulgence, betterment was associated with less perceived social support (pr = −.23).

Indulgence had small positive zero-order correlations with positive emotions (r = .15) and negative emotions (r = .20). When controlling for engagement and betterment, however, the relationship between indulgence and positive emotions became negative (pr = −.17), and the correlation between indulgence and trait negative emotion went from r = .20 to pr = .42. When controlling for negative emotion regulation, indulgence was related to greater negative emotion (pr = .31) but not related to positive emotion (pr = −.03). Indulgence was associated with more symptoms of depression (r = .24, pr = .31), and when controlling for engagement and betterment, indulgence was also associated with lower life satisfaction (pr = −.26) and greater perceived stress (pr = .26).

3.3. Discussion

A principal component analysis of positive emotion-regulating strategies revealed three positive emotion regulation domains, each of which has different relationships with positive and negative emotion at the trait level. The first component, engagement, is a combination of seeking out positive situations and people and engaging in the present moment and the company of others.

What do these specific strategies have in common with each other? All of them are simple and direct actions that have clear implications for raising positive emotions in an immediate and straightforward way. For example, the abilities to savor (reflected in items such as savoring the moment, thinking about the things that are good in my life) and anticipate positive events (e.g., think about future events I'm looking forward to) has been associated with the experience of positive emotion at the trait level in past research (Bryant, 2003). Socializing with others—reflected here by items such as seeking out positive people and seeking out friends—is robustly associated with positive emotion, both at the trait and the state level. Expressing positive emotions (sharing positive emotions with others, expressing positive emotions) has also been linked to the successful up-regulation of positive emotions (Langston, 1994). This strategy domain also has a clear cognitive component, drawing on both attentional control (concentrate on positive things happening around me) and appraisal processes (think about things that make me happy, look on the bright side of things). Research has suggested that happy individuals have cognitive habits in place that help them maintain positive emotional experiences (for a review, see Abbe, Tkach, & Lyubomirsky, 2003), and this is consistent with the correlation between engagement and optimism found in Study 1.

Theoretically as well, social and mental engagement strategies serve similar functions in the Broaden-and-Build model of positive emotions (Fredrickson, 1998). By eliciting immediate positive emotions, strategies such as adopting a positive mindset, spending time with others, and savoring positive experiences broaden the scope of cognition and action and are likely to generate long-term social resources (e.g., stronger social support) and personal benefits (e.g., more flexible thinking and affect regulation skills). This is supported by the associations between engagement and a range of well-being variables in the current research. Perhaps because it is more closely related to traditional measures of affect regulation (e.g., savoring, mood repair), engagement appeared to be broadly associated with adaptive functioning and well-being: It was associated with greater positive emotion and well-being, greater down-regulation of negative emotion, and less negative emotion and stress, even when controlling for the other two strategies. Engagement is not merely a form of negative emotion regulation, however: It was related to positive emotion even when controlling for mood repair, cognitive reappraisal, and suppression, so it appears that these strategies of regulating positive emotion have links to emotional experience over and above negative emotion regulation.

The second component, betterment, focuses on goal pursuit and religious activity. What do these strategies have in common? As the label "betterment" implies, these strategies all involve promoting future well-being and personal development. Goal-focused activities (e.g., finish a task or work towards a goal, take a challenge to the next level) and using signature strengths (e.g., use my talents to accomplish something, work on a hobby) combine with spiritual contemplation (e.g., consult my faith, meditate or engage in spiritual practices) to suggest a general strategy of present gratitude (e.g., think about what I'm grateful for) in the service of future self-betterment (e.g., think about how to make myself a better person).

Betterment was associated with greater positive emotion and life satisfaction, but this appeared to be in part because it typically covaries with engagement. When controlling for other strategies (i.e., when comparing individuals who use different levels of betterment strategies but the same levels of engagement and indulgence) greater betterment was not associated with other markers of long-term well-being. The benefits of betterment may be best measured using eudemonic indicators of well-being, such as having a strong purpose in life and personal growth (see Ryff, 1989).

To get a finer-grained look at he correlates of betterment, we separated the positive emotions scale into specific emotion items. Betterment was most strongly associated with the emotions of pride (r = .34, pr = .18) and interest (r = .29, pr = .15). Theoretically, betterment strategies fit with the Broaden-and-Build model of positive emotions by building long-term intellectual, spiritual, and personal resources, although the benefits may take longer to manifest.

The third component, indulgence, showed a much different pattern of correlations with personality, emotion, and well-being. Some items—drinking alcohol, buying something, drinking coffee, and dressing up—suggest an active fun-seeking component, whereas others—fantasizing, using imagery—suggest a passive withdrawal or escape. What do these strategies have in common? As the label "indulgence" implies, these are activities that seem to elicit momentary pleasure. In contrast with betterment, which focuses on personal growth, and engagement, which focuses on socializing with others and enjoying positive experiences, indulgence strategies seek pleasure from external sources (alcohol, coffee, praise, purchases) or escapism (fantasy, imagery).

Indulgence was associated both with greater positive and negative emotion, and when controlling for the other strategies, indulgence correlated with less positive emotion and life satisfaction, and more negative emotion, depression, and stress. One possibility is that these strategies might create momentary positive emotion, but when utilized in isolation—without the benefits of engagement and betterment—they fail to build long-term resources. Some research suggests that positive fantasizing without active goal pursuit, for example, can lead to negative outcomes (Oettingen & Mayer, 2002). In addition, pursuits that gratify immediate pleasures (e.g., drinking, shopping, partying) without social engagement may lead to long-term social, personal, and financial costs. Emotionally, the use of indulgence strategies was associated with trait guilt (r = .23, pr = .35) and shame (r = .38, pr = .21). This suggests that the distinctive contribution of indulgence strategies (apart from its tendency to co-occur with other strategies) might be an ineffective or even counterproductive way to promote positive well-being in the long-term.

Study 1 focused on individual differences in positive up-regulation and their associations with other constructs, including trait emotions. Though there are individual differences in how frequently people use various emotion regulation strategies, emotion regulation is enacted as a dynamic process. The general characteristics of someone who uses an emotion regulation strategy are not necessarily the same as the brief states associated with use of a strategy, and stable and dynamic components of emotion regulation need to be studied separately (Srivastava et al., 2009). Therefore, it is useful to also examine short-term relationships between emotion regulation and emotional experience.

One limitation of Study 1 is the reliance on global, retrospective self-report, and shared method variance between measures of emotion regulation and reports of emotion. In addition, in Study 1, we assessed these relationships in the same sample that we used to identify the three emotion regulation strategies. Therefore, in Study 2, we sought to replicate the trait-level associations between emotion regulation and emotion, and utilized a diary methodology designed to reduce shared method variance and retrospective bias and to measure state-level experience.

4. Study 2

Study 1 examined how engagement, betterment, and indulgence strategy domains correlated with trait emotions and well-being. These correlations were particularly important because the extent to which positive up-regulation strategies are effective (or not) should be reflected in such correlations. One major goal of Study 2 was to replicate these key trait-level correlations.

A second major goal of Study 2 was to investigate the relationship between positive emotion up-regulating strategies and emotions at the state level. In particular, we were interested in whether there may be a tradeoff between brief-lived emotional states and long-term emotions and well-being. Betterment strategies may involve short-term tradeoffs, such as delaying gratification or pleasure in the course of goal pursuit. Conversely, indulgence strategies may create immediate positive emotion at the state level, and their negative implications are only experienced in the long run.

For Study 2, we utilized a diary methodology: The Day Reconstruction Method (DRM), in which participants are asked to provide detailed data regarding the previous day, in terms of episodes (Kahneman, Krueger, Schkade, Schwartz, & Stone, 2004), which has several advantages over a more general global or retrospective task. First, participants are prompted to provide detailed data for each episode: its start time, duration, and location, as well as what they were doing, with whom they were interacting, and how they were feeling; in other words, to "reconstruct" each experience. The detail asked of the participants is designed to elicit more accurate recollection of events than an open-ended retrospective report. Second, in more general experience-recall tasks, when participants are asked to remember a time when they faced a certain situation, this biases recall in terms of extraordinary events (Coyne & Gottlieb, 1996). The DRM asks participants to report all events from a pre-determined period (yesterday), so does not introduce selection bias in terms of which situations are reported. Third, the DRM provides information on multiple situations, rather than a single one, so we can examine the pattern of relationships between regulation strategies and emotion over a sampling of situations. The DRM has been shown to produce similar patterns of emotional intensity and change over the course of a day as an experience sampling method (Dockray et al., 2010), and is less reactive, as participants are not interrupted during ongoing experiences.

4.1. Method

4.1.1. Participants

Participants were 183 undergraduates (109 female, 57 male, 17 unknown) who participated in an online study and were compensated with credit toward an introductory psychology or linguistics class. The participants ranged in age from 18 to 58 (M = 19.98, SD = 3.62; 73% European American, 10% Asian/Asian American, 9% Hispanic, 3% African American).

4.1.2. Procedure

The procedure for this study was a version of the Day Reconstruction Method (DRM; Kahneman et al., 2004) that was adapted for online administration. After consenting to participate, participants completed four parts of the study in a single online session. In Part 1, they answered a brief questionnaire about life satisfaction. In Part 2, they were instructed to think carefully about everything they did on the previous day, from waking to going to sleep, and to divide that day into episodes. The instructions stated that, "The episodes that people identify usually last between 15 minutes and 2 hours. Indications of the end of an episode might be going to a different location, ending one activity and starting another, or a change in the people you interact with" (Kahneman et al., 2004). In Part 3, participants completed a detailed report for each of the episodes they listed in Part 2, including reports of which positive up-regulation strategies they used and which emotions they experienced during the episode. In Part 4, participants completed a series of individual difference measures.

Overall, participants reported 1981 episodes, with an average of 11 episodes per participant (SD = 3.87). Seven participants reported fewer than five episodes and were excluded from analyses (remaining N = 176).

4.1.3. Measures

Individual difference measures were gathered once per participant (in Part 4). Episode-level measures were gathered once per episode (in Part 3), and thus we have multiple measurements per participant.

Trait-level use of positive emotion regulation was measured using the same scales as in Study 1. The internal consistency for each of the trait-level positive emotion regulation subscales was again acceptable (α = .91 for engagement, α = .72 for betterment, and α = .71 for indulgence). As in Study 1, the three scales were correlated with each other: r = .58 between engagement and indulgence, r = .65 between engagement and betterment, and r = .61 between betterment and indulgence. In Part 4, participants completed the scales of trait positive and negative emotion and life satisfaction described in Study 1.

State-level use of engagement, betterment, and indulgence was measured for each episode. Participants reported whether or not they were engaged in each of 20 positive emotion-promoting strategies selected to represent engagement, betterment, and indulgence strategies (see Table 1). We selected this subset of 20 strategies to maximize content validity and capture the diversity within each strategy. Participants were told, "Sometimes people engage in specific strategies because they will create positive emotions, keep positive emotions going, or make positive emotions even more intense. During this episode, did you do any of the following activities for these purposes? Please check yes or no for each activity." Scale scores for engagement, betterment, and indulgence were created as a percentage of the strategies used in each episode (thus these scores ranged from 0 to 100).

State-level positive and negative emotions were measured for each episode. Participants rated their experience on eight items that were either single words or word pairs for positive emotions (happy/joyful, proud, amused, relaxed/calm, warm/affectionate, content/satisfied, interested/curious, and confident/capable) and seven word pairs for negative emotions (frustrated/annoyed, angry/irritated, sad/depressed, stressed/hassled, worried/anxious, hurt/put-down, and guilty/ashamed). Each emotion was rated on a scale from 0 (not at all) to 6 (very much). We created a positive emotion scale and a negative emotion scale by averaging the corresponding items, and rescaled them to range from 0 to 100.

4.2. Results

4.2.1. Positive emotion up-regulation with trait emotions and well-being

To replicate the findings of Study 1, we calculated zero-order and partial correlations between trait-level measures of positive emotion regulating strategies and trait emotions from the positive and negative emotion scales. Zero-order and partial correlations are reported in Table 3.

As in Study 1, engagement was positively correlated with positive emotion (r = .50, pr = .47). Although its zero-order correlation with negative emotion (r = −.12) was not significant, engagement was significantly associated with less negative emotion (pr = −.26) when controlling for betterment and indulgence. Engagement was also significantly associated with greater life satisfaction in both the zero-order (r = .38) and partial correlations (pr = .37).

As in Study 1, betterment had positive zero-order correlations with positive emotion (r = .29); the partial correlation was not significant. In Study 2 as in Study 1, betterment was not significantly related to negative emotion. As in Study 1, betterment was correlated with greater life satisfaction (r = .17), but the partial correlation was small and not significant.

In Study 1, indulgence had small positive zero-order correlations with both positive and negative emotions. In Study 2, indulgence had a significant zero-order correlation with positive emotion ($r = .25$), but not negative emotion. When controlling for engagement and betterment, however, indulgence had no relationship with positive emotion, and had a positive partial correlation with negative emotion ($pr = .23$). The correlation between indulgence and life satisfaction was small and not significant.

4.2.2. Strategy use within episodes: Descriptive analyses

All of the positive up-regulation strategies were used frequently. Of the 1981 episodes, participants reported using at least one engagement strategy in 76.8% (1522) of them, betterment in 62.8% (1245), and indulgence in 69.4% (1374). Across all episodes, women reported using more engagement ($M = 66.72$, $SD = 12.48$) than men ($M = 60.43$, $SD = 18.67$), over the course of the day, $t(137) = -2.38$, $p = .02$. There were no gender differences in use of betterment or indulgence strategies. Internal consistency was lower in the episodes than it was at the trait level ($\alpha = .69$ for engagement, $\alpha = .57$ for betterment, and $\alpha = .43$ for indulgence). This was not unexpected, as within a given episode, only one or two of the strategies within each domain may be sufficient to regulate emotion (Billings & Moos, 1981). Within the episodes, engagement was correlated with indulgence ($r = .50$) and with betterment ($r = .26$), and betterment was correlated with indulgence ($r = .36$).

4.2.3. Positive emotion up-regulation and state emotions

We used multilevel modeling to calculate the relationship between strategies and emotion at the episode level. Analyses were run modeling episode-level strategies predicting episode-level emotion, nested within person. Analyses were conducted first with each strategy entered separately and then with all three strategies entered simultaneously; interpretations of these models are analogous to the zero-order and partial correlations, respectively, in the individual-difference analyses. The equations for the simultaneous analysis were as follows:

$$Y_{ij} = \beta_{0i} + r_{ij}$$

$$\beta_{0i} = \gamma_{00} + \gamma_{01}\text{ENG}_i + \gamma_{02}\text{BET}_i + \gamma_{03}\text{COM}_i + u_i$$

Results are reported in Table 4. When entered as separate predictors, both engagement ($\gamma = .27$, $SE = .02$) and indulgence ($\gamma = .20$, $SE = .03$) were related to greater positive emotion, whereas betterment was not. When entered simultaneously, engagement

remained correlated with more positive emotion ($\gamma = .27$, $SE = .01$), betterment was correlated with *less* positive emotion ($\gamma = -.06$, $SE = .02$), and indulgence had no relationship.

When entered as separate predictors, engagement was related to less negative emotion ($\gamma = -.08$, $SE = .01$), betterment was related to more negative emotion ($\gamma = .17$, $SE = .02$), and indulgence had no relationship. When entered simultaneously, engagement remained a significant negative correlate of negative emotion ($\gamma = -.11$, $SE = .01$), betterment remained a significant positive correlate ($\gamma = .18$, $SE = .02$), and indulgence became a significant positive correlate ($\gamma = .05$, $SE = .02$).

4.3. Discussion

In Study 2, engagement demonstrated robust relationships with emotion, suggesting that engagement strategies are associated with greater positive emotion and less negative emotion both at the trait and state levels. In contrast, both betterment and indulgence demonstrated tradeoffs between short- and long-term emotions. In Study 2, at the state-level, betterment was associated with greater negative emotion and was unrelated to positive emotion, and it was associated with less positive emotion when controlling for the other strategies. Betterment strategies often co-occur with engagement strategies (as indicated by their positive episode-level correlation); engagement strategies appear to offset any short-term drop in positive emotion that would result from using betterment strategies alone. This suggests that when used in conjunction with engagement, betterment is a worthwhile strategy in the long term.

On the other hand, indulgence strategies, which were related to less trait positive emotion and more trait negative emotion, were associated with greater state positive emotion. One possible interpretation is that although indulgence strategies are not associated with generally adaptive functioning, in the moment they might provide some transient enjoyment that sustains motivation to engage in them. When controlling for betterment and engagement, however, indulgence predicted more negative emotion as well as more positive emotion.

5. General discussion

The present studies can contribute to an understanding of emotion regulation in several ways. First, we focused specifically on the up-regulation of positive emotions, rather than the down-regulation of negative ones, and we examined the degree to which these constructs overlap. Second, we combined top-down and bottom-up approaches to collecting potential emotion regulation strategies; this allowed our approach to be informed both by prior theory and the experiences of our participant population without being constrained by either one alone. Third, we identified individual differences in tendencies to use positive emotion up-regulation strategies. Fourth, we explored both trait-level and state-level relationships between the regulation strategies and the emotional experience by utilizing individual difference and Day Reconstruction Methods, and we found that different strategies have different implications for emotional experience and well-being.

In this research, we identified three domains of strategies that people use to seek out positive emotions. These strategy domains were positively correlated, suggesting that they are part of a higher-order domain of positive regulation. However, the utility of the 3-factor model was supported by distinct patterns of correlations, particularly suppressor relationships for betterment and indulgence that emerged when the strategies were partialled (Study 1) or regressed simultaneously (Study 2). *Engagement* with others and with the moment was associated with greater positive

Table 4
Positive emotion regulation strategies predicting state positive and negative emotions in multilevel modeling, Study 2.

Parameter	Entered separately			Entered together	
	Intercept	γ	t	γ	t
Episode positive emotions					
Intercept				35.72 (1.24)	28.92[*]
Engagement	34.95 (1.29)	.27 (.02)	17.23[*]	.27 (.01)	20.65[*]
Betterment	44.00 (1.25)	.00 (.03)	.00	−.06 (.02)	−2.73[*]
Indulgence	40.57 (1.34)	.20 (.03)	5.85[*]	.00 (.02)	−.01
Episode negative emotions					
Intercept				27.83 (1.25)	22.23[*]
Engagement	31.15 (1.40)	−.08 (.01)	−5.55[*]	−.11 (.01)	−8.22[*]
Betterment	25.25 (1.20)	.17 (.02)	6.85[*]	.18 (.02)	8.75[*]
Indulgence	27.84 (1.28)	.02 (.02)	.85	.05 (.02)	2.12[*]

Note: N = 176. Standard errors are reported in parentheses.
[*] $p < .05$.

emotion and less negative emotion, both at the state and the trait level, and with greater long-term well-being. Engagement was most closely associated with traditional measures of mood repair and emotion regulation, but was related to positive emotion above and beyond the effects of mood repair, reappraisal, and suppression. Strategies related to engagement (e.g., seeking out a friend to spend time with, concentrating on the positive things happening, expressing positive emotions) therefore seem to serve both repair negative feelings and promote positive ones. *Betterment* strategies included activities in which people seek to utilize and develop their skills, engage in spiritual practices, and work towards goals. Unlike engagement, betterment was related to more negative emotion at the state level, but greater well-being at the trait level. This suggests that people who engage in betterment strategies are sacrificing short-term pleasure for long-term gains, such as trait-level pride and eudemonic well-being, though this should be tested further in future research. *Indulgence* strategies involved pleasure-seeking activities such as drinking alcohol, shopping, and fantasizing. Although indulgence strategies were related to state-level positive emotion, they were also related to more trait-level negative emotion. When controlling for the other strategies, greater use of indulgence strategies was related to more depressive symptoms and perceived stress, and lower life satisfaction, and was unrelated to positive emotion.

5.1. Implications for theories of emotion, affect, and mood regulation

Why should we be concerned with positive emotion up-regulation? The Broaden-and-Build theory (Fredrickson, 1998, 2000) suggests that positive emotions broaden the scope of a person's attention, cognition, and action, and build long-term social, cognitive, and physical resources. Engagement draws on a wide range of positive emotions to promote play, affiliation, and savoring. Engagement strategies can be used to repair and/or buffer against negative emotions, and are associated with social resources like greater social support, and personal resources like life satisfaction and self-esteem. Betterment had a less distinct emotional profile, but it was associated with greater trait positive emotions, particularly pride. Betterment may be particularly appropriate for study through a longitudinal lens, as it involves behaviors geared toward goal achievement and personal growth, and therefore building long-term personal resources, though perhaps at the cost of short-term hedonic pleasure.

The current research suggests, however, that not all positive emotion up-regulation has positive consequences. Indulgence had complex relations with emotions: It was associated with greater state positive emotion but greater trait negative emotion, suggesting that it is not an adaptive strategy in the long term. The strategies that are associated with immediate pleasure may not build the long-term resources that engagement and betterment strategies do, or may introduce negative emotions (especially guilt) and other consequences that offset any temporary benefits. Recent research suggests that in some instances, placing too much value on happiness is related to lower well-being, possibly because high expectations lead to disappointment (Mauss, Tamir, Anderson, & Savino, 2011). It is possible that people who utilize indulgence strategies are disappointed that their happiness does not last as long as they would like. It would be helpful to examine individuals' goals regarding positive emotions, as well as their expectations for how each strategy domain will improve their short- and long-term well-being.

Engagement strategies span Gross's (1998b) process model of emotion regulation, from situation selection (seek out positive people) and modification (direct conversations to pleasant things), to attentional deployment (concentrate on positive things happening around me) and cognitive change (look on the bright side of

things), to response modulation (savor the moment, express positive emotions). It seems, then, that Gross's model can be applied to regulating positive as well as negative emotions.

In research on strategies for down-regulating negative emotions, Gross and others have distinguished between antecedent-focused strategies and response-focused strategies. A number of studies have shown that antecedent-focused emotion regulation is more effective in down-regulating negative emotions because it prevents the emotion from occurring in full force, in contrast to response-focused emotion regulation strategies that occur after the emotion is well underway (Gross, 1998a; Gross & John, 2003). This distinction might not hold for positive emotions, however. Antecedent- and response-focused strategies loaded together in the principal component analysis in Study 1. Perhaps the antecedent/response distinction matters less for positive emotions than for negative emotions, where factor analyses show that these items load separately (Gross & John, 2003). On the other hand, one important distinction could be that antecedent-focused strategies may be used to create positive emotions, whereas response-focused strategies may be used to maintain or enhance positive emotions. In this research, we did not distinguish between these goals for up-regulating positive emotions, and this question offers a promising avenue for future research.

Each of the three positive up-regulation strategies had different relations to two negative down-regulation strategies that Gross and others have focused on. Engagement and betterment were both associated with greater use of cognitive reappraisal, and indulgence was associated with less reappraisal when controlling for the other strategies. Cognitive reappraisal is a strategy in which events are reinterpreted to change their emotional impact; thus, it can sometimes involve generating positive emotions. Engagement was associated with less use of expressive suppression. Suppression typically involves withdrawal from social connections (Srivastava et al., 2009), whereas engagement can include seeking social support.

Engagement was also related to several measures of mood repair. Engagement includes activities that are commonly used in everyday life to up-regulate positive emotions, either to repair negative ones, or for their own sake. It includes many of the strategies that our top-down approach drew from the affect regulation literature (for example, savoring, social affiliation, and expressing positive emotions; see Bryant, 2003; Tkach & Lyubomirsky, 2006); engagement also included some of the participants' most commonly reported strategies. Many of the items have clear face validity: "Put myself in a situation that I know will make me feel good," "look on the bright side of things," and "seek out positive people" are strategies that a person might engage in with the expectation for immediate and long-term benefits. Moreover, because of the robust relationship with positive emotion, this strategy can also be thought to represent the most "effective" everyday strategies for promoting positive emotion.

Betterment had modest relationships with mood repair. Theoretically, it is related to the mood repair strategy of "mastery-oriented activities" described by Parkinson and Totterdell (1999), and the happiness-seeking strategies of instrumental goal pursuit, active leisure, and religion described by Tkach and Lyubomirsky (2006). The present research suggests that people engage in betterment strategies both for mood repair and to up-regulate positive emotions. The process by which betterment promotes positive emotions, however, seems to be less direct than that involved in engagement. For example, the benefits of betterment require delay of gratification to pursue long-term rewards and eventual satisfaction (e.g., pride); this comes at the cost of immediate positive emotion, and may even temporarily increase negative emotion.

Indulgence was unrelated to many traditional measures of affect regulation. It resembles the happiness-seeking strategy of

partying and clubbing (Tkach & Lyubomirsky, 2006) and pleasure-oriented mood repair strategies (Parkinson & Totterdell, 1999), but includes an element of escapism as well, in the form of fantasizing and putting off responsibilities. Because it was unrelated to other measures of affect regulation, and had inconsistent relationships with positive and negative emotion, indulgence strategies might more precisely be considered attempts at emotion regulation, rather than an effective emotion regulation approach.

5.2. Individual differences in who uses these strategies

Consistent with hypotheses and with previous research, extraverts were more likely to engage in positive emotion up-regulation strategies, especially engagement. Trait extraversion has been robustly associated with greater positive affect, both at the trait and the state level (Lucas & Fujita, 2000). Although part of this relationship can be explained by temperament, some research suggests that part of why extraverts experience more positive affect is due to the activities that they engage in, such as social participation (Srivastava et al., 2009) and greater positive mood maintenance (Lischetzke & Eid, 2006). The present research suggests that extraverts also engage in more positive emotion up-regulation, especially those activities that are more closely related to positive affect.

People with higher self-esteem also used more engagement strategies, but self-esteem was unrelated to betterment and indulgence. Past research has shown that people with low self-esteem were more likely to dampen positive emotions, but evidence that people with high self-esteem savor positive emotions was mixed (Wood et al., 2003). In the present research, we found that self-esteem was associated with the most prototypical strategy of positive emotion up-regulation: engagement. Because these designs were correlational, however, we cannot determine here whether self-esteem drives emotion regulation, or whether emotion regulation results in greater or lower self-esteem.

5.3. Limitations and future directions

We measured positive emotion regulation by asking people what they do to alter their emotions. This limited our scope to conscious emotion regulation. In the mood regulation and negative emotion regulation literature, it is assumed (and validated) that some regulation is done with conscious awareness or intent (e.g., Gross 1998b), while other regulation may be unconscious (Mauss, Evers, Wilhelm, & Gross, 2006). It is likely that some positive regulation is done unconsciously, and in future research it will be important to use other methods that can manipulate or measure positive up-regulation unconsciously.

One potential criticism of the present method is that participants may not be accurately reporting strategies that they actually use to regulate. Instead, they could be reporting activities that they simply believe produce positive emotions, perhaps because these activities co-occur with positive emotions. If that were the case, we would expect to find strong correlations between all of the strategies and the experience of trait positive emotion. The correlations were mixed, however. Although there was a close association between engagement strategies and positive emotion, the relationship between betterment and emotion was less compelling, and the relationship between indulgence and emotion showed the opposite pattern. Therefore, it seems more likely that participants are reporting on the strategies that they engage in with the intention of up-regulating positive emotions, although not all of them are successful.

Another possibility is that people may be aware of their emotion regulation styles, but they may be thinking of the strategies they use to repair negative emotions – the prototypical example

of emotion regulation (Gross et al., 2006). We addressed this possibility by specifically instructing participants to rate their strategies for up-regulating positive emotion. Further, we tested this empirically by examining correlations between positive and negative emotion regulation. The modest or moderate correlations with negative emotion regulation suggest that this process of up-regulating positive emotions is distinct from down-regulating negative ones. Moreover, the correlations between the positive emotion regulation strategies and emotion were generally larger for positive, rather than negative emotions.

The Day Reconstruction Method is designed to reduce retrospective bias (Kahneman et al., 2004), but it is possible that participants remembered things that they did the previous day that made them feel good, and reported those activities as emotion regulation, when they were never intended as such. The near-zero relationship between betterment strategies and positive emotions speaks against this alternative explanation, but future studies with other methods will help clarify these issues. In particular, an ecological momentary assessment method would provide concurrent ratings of emotion and emotion regulation, reducing retrospective bias even further.

The correlational designs of these studies cannot test causal relationships between positive emotion up-regulation and emotional experience. It may be that there are reciprocal relations: the experience of positive or negative emotions may prompt the use of up-regulation strategies as well as the other way around. Anticipating this possibility, we asked participants to report on the activities they engage in specifically for the purposes of creating, maintaining, or enhancing positive emotions. In everyday life, however, it could be that positive emotions promote such emotion-seeking strategies, contributing to the "upward spiral" of well-being. Future studies with experimental designs will be important for further validating any causal inferences.

Although we tried to be thorough in gathering potential up-regulation strategies, we neither believe nor wish to claim that the list we obtained is comprehensive or that it necessarily generalizes to other populations. Because we drew nominations from a college student sample, we likely did not identify some positive emotion up-regulation strategies that might be used by other groups. For example, spending time with family or children and finding satisfaction from one's career were not mentioned, but are likely prominent strategies for emotion up-regulation among older adults. Therefore, we recommend caution in using the questionnaire developed in this research in groups that are different from the samples examined here. Rather than directly exporting the measure in its present form, researchers working with other populations should consider using a bottom-up approach to gather additional strategies and to evaluate the relevance of the items on our list (see Henrickson & Stephens, 2012, for research on happiness-seeking activities in older adults).

5.4. Conclusions

Positive emotions do more than just allow us to feel good. They "undo" the physiological and psychological effects of negative emotions and allow us to bounce back more rapidly from stressful experiences (Folkman & Moskowitz, 2000; Fredrickson & Levenson, 1998). They broaden the scope of our thoughts and actions, and build social, physical, and intellectual resources (Fredrickson, 1998). The more frequently we experience positive emotions, the better are our social relationships, career progress, and physical health (Lyubomirksy et al., 2005), suggesting that cultivation of positive emotions is a worthwhile endeavor. As this current research suggests, however, not all strategies are equal in their relationships with positive emotion and well-being.

The studies presented here show that the activities and processes involved in positive emotion up-regulation overlap somewhat, but not entirely, with those involved in mood repair and happiness-seeking. Many of the activities serve multiple purposes. Nonetheless, the strategies used specifically to promote positive emotion, can be classified into three more general strategies of engaging with the moment and with others, of striving to better oneself, and indulging in momentary pleasure. These strategies each have unique patterns of relationships with state and trait positive and negative emotions, so when cultivating positive emotions, it is helpful to understand these tradeoffs in order to better promote well-being and positive functioning.

Appendix A. Positive up-regulation activities

Instructions: Below is a list of behaviors that people sometimes use to influence how they feel. For each item, please rate how often *you use* that behavior *specifically to create or maintain positive emotions* (such as joy, contentment, pride, or love). Please use the following scale:

Never	Rarely	Sometimes	Often	Very often
1	2	3	4	5

1. I think of things that make me happy
2. I buy something for myself
3. I think of future events that I am looking forward to
4. I drink coffee or a caffeinated/energy drink
5. I look on the bright side of things
6. I drink alcohol
7. I think of people who are worse off than me
8. I meditate or engage in spiritual practices
9. I exercise or play sports
10. I think about what it is that made me feel good
11. I express my positive emotions by smiling or laughing
12. I think about feeling good
13. I just act happy
14. I just let myself feel good
15. I relax, take a bath, or lie in the sun
16. I fantasize or daydream
17. I do the things I enjoy
18. I think about or list what I have accomplished
19. I eat foods that I like
20. I think about what I'm grateful for
21. I finish a task or work towards a goal
22. I think about the things that are good in my life
23. I accomplish something that I've been putting off
24. I pay attention to nice things that I see or hear around me
25. I seek out a friend or friends to spend time with
26. I concentrate on the positive things happening around me
27. I work on a hobby
28. I change the way I am thinking about the situation
29. I direct conversations to pleasant things
30. I decide to be in a good mood
31. I put myself in a situation that I know will make me feel good
32. I savor the moment, keep it in mind
33. I help others, commit acts of kindness
34. I look at the situation with a sense of humor
35. I give someone a gift or unexpected surprise
36. I try not to think about being happy, just let myself feel good
37. I give help or support to a friend
38. I take life as it is, accept the ups and downs
39. I seek out support and encouragement from a friend
40. I think about how to make myself a better person
41. I draw, play a musical instrument, or express my feelings artistically
42. I consult my faith
43. I stay away from people who bring me down
44. I listen to upbeat music or my favorite music
45. I remind myself that I deserve to be happy
46. I engage in an activity that absorbs all my attention
47. I imagine or picture happy images
48. I use humor to make myself or others laugh
49. I ignore negative information
50. I go out dancing or partying
51. I think about the people that I love
52. I watch television, see a movie, or read a book
53. I tell myself that my good feelings will last awhile
54. I spend time alone, relaxing
55. I engage in religious activity
56. I use my talents to accomplish something
57. I seek praise from others
58. I give praise to others
59. I change things up so they don't get boring
60. I take a challenge to the next level
61. I try new things that I think I will like
62. I share my positive emotions with others
63. I spend time with my family
64. I try to keep things "light"
65. I tell jokes or act silly
66. I ignore negative sights and sounds around me
67. I seek out positive people
68. I seek physical comfort
69. I dress up or make myself look good
70. I remember good times in the past
71. I visualize pleasant scenes or use imagery
72. I put off chores or duties
73. I think about new goals to pursue
74. I compliment myself
75. I avoid negative situations

References

Abbe, A., Tkach, C., & Lyubomirsky, S. (2003). The art of living by dispositionally happy people. *Journal of Happiness Studies, 4*, 385–404. http://dx.doi.org/10.1023/B:JOHS.0000005769.54611.3c.

Ashton, M. C., Lee, K., & Paunonen, S. (2002). What is the central feature of extraversion? Social attention versus reward sensitivity. *Journal of Personality and Social Psychology, 83*, 245–252. http://dx.doi.org/10.1037//0022-3514.83.1.245.

Billings, A. G., & Moos, R. H. (1981). The role of coping responses and social resources in attenuating the stress of life events. *Journal of Behavioral Medicine, 4*, 139–157. http://dx.doi.org/10.1007/BF00844267.

Bryant, F. B. (1989). A four-factor model of perceived control: Avoiding, coping, obtaining, and savoring. *Journal of Personality, 57*, 773–797. http://dx.doi.org/10.1111/j.1467-6494.1989.tb00494.x.

Bryant, F. B. (2003). Savoring beliefs inventory (SBI): A scale for measuring beliefs about savoring. *Journal of Mental Health, 12*, 175–196. http://dx.doi.org/10.1080/0963823031000103489.

Carver, C. S. (2004). Negative affects deriving from the behavioral approach system. *Emotion, 4*, 3–22. http://dx.doi.org/10.1037/1528-3542.4.1.3.

Carver, C. S., & Scheier, M. F. (1990). Origins and functions of positive and negative affect: A control-process view. *Psychological Review, 97*, 19–35. http://dx.doi.org/10.1037//0033-295X.97.1.19.

Carver, C. S., & Scheier, M. F. (2002). Optimism. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 231–243). New York, NY: Oxford University Press.

Cohen, S., & Hoberman, H. M. (1983). Positive events and social supports as buffers of life change stress. *Journal of Applied Social Psychology, 13*, 99–125. http://dx.doi.org/10.1111/j.1559-1816.1983.tb02325.x.

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24*, 385–396. http://dx.doi.org/10.2307/2136404.

Coyne, J. C., & Gottlieb, B. H. (1996). The mismeasure of coping by checklist. *Journal of Personality, 64*, 959–993. http://dx.doi.org/10.1111/j.1467-6494.1996.tb00950.x.

Deaver, C., Miltenberger, R., Smyth, J., Meidinger, A., & Crosby, R. (2003). An evaluation of affect and binge eating. *Behavior Modification, 27*, 578–599. http://dx.doi.org/10.1177/0145445503255571.

Diener, E. (1984). Subjective well-being. *Psychological Bulletin, 95*, 542–575. http://dx.doi.org/10.1037//0033-2909.95.3.542.

Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index. *American Psychologist, 55*, 34–43. http://dx.doi.org/10.1037//0003-066X.55.1.34.

Diener, E., Emmons, R. A., Larsen, R. L., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment, 49*, 71–75. http://dx.doi.org/10.1207/s15327752jpa4901_13.

Dockray, S., Grant, N., Stone, A. A., Kahneman, D., Wardle, J., & Steptoe, A. (2010). A comparison of affect ratings obtained with ecological momentary assessment and the day reconstruction method. *Social Indicators Research, 99*, 269–283. http://dx.doi.org/10.1007/s11205-010-9578-7.

Erber, R. (1996). The self-regulation of moods. In L. L. Martin & A. Tesser (Eds.), *Striving and feeling: Interactions among goals, affect, and self-regulation* (pp. 251–275). Mahwah, NJ, USA: Lawrence Erlbaum Associates.

Fabrigar, L. R., Wegener, D. T., MacCullum, R. C., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods, 4*, 272–299. http://dx.doi.org/10.1037//1082-989X.4.3.272.

Folkman, S., & Moskowitz, J. T. (2000). Positive affect and the other side of coping. *American Psychologist, 55*, 647–654. http://dx.doi.org/10.1037//0003-066X.55.6.647.

Fredrickson, B. L. (1998). What good are positive emotions? *Review of General Psychology, 2*, 300–319. http://dx.doi.org/10.1037//1089-2680.2.3.300.

Fredrickson, B. L. (2000). Cultivating positive emotions to optimize health and well-being. *Prevention & Treatment, 3*. <http://dx.doi.org/10.1037/1522-3736.3.1.31a> (Article 1).

Fredrickson, B. L., & Levenson, R. W. (1998). Positive emotions speed recovery from the cardiovascular sequelae of negative emotions. *Cognition and Emotion, 12*, 191–220. http://dx.doi.org/10.1080/026999398379718.

Freitas, A., & Salovey, P. (2000). Regulating emotion in the short and long term. *Psychological Inquiry, 11*, 178–179.

Gross, J. J. (1998a). Antecedent- and response-focused emotion regulation: Divergent consequences for experience, expression, and physiology. *Journal of Personality and Social Psychology, 74*, 224–237. http://dx.doi.org/10.1037//0022-3514.74.1.224.

Gross, J. J. (1998b). The emerging field of emotion regulation: An integrative review. *Review of General Psychology, 2*, 271–299. http://dx.doi.org/10.1037//1089-2680.2.3.271.

Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology, 85*, 348–362. http://dx.doi.org/10.1037/0022-3514.85.2.348.

Gross, J. J., Richards, J. M., & John, O. P. (2006). Emotion regulation in everyday life. In D. K. Snyder, J. A. Simpson, & J. N. Hughs (Eds.), *Emotion regulation in families: Pathways to dysfunction and health*. Washington, DC: American Psychological Association.

Henrickson, A., & Stephens, C. (2012). The happiness-enhancing activities and positive practices inventory (HAPPI): Development and validation. *Journal of Happiness Studies*. Advance online publication. <http://dx.doi.org/10.1007/s10902-011-9317-z>.

John, O. P., & Srivastava, S. (1999). The Big Five trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (2nd ed., pp. 102–138). New York: Guilford.

Kahneman, D., Krueger, A. B., Schkade, D. A., Schwartz, N., & Stone, A. A. (2004). A survey method for characterizing daily life experience: The day reconstruction method. *Science, 306*, 1776–1780. http://dx.doi.org/10.1126/science.1103572.

Kasser, T. (2003). *The high price of materialism*. Cambridge, MA: MIT Press.

Langston, C. A. (1994). Capitalizing on and coping with daily-life events: Expressive responses to positive events. *Journal of Personality and Social Psychology, 67*, 1112–1125. http://dx.doi.org/10.1037/0022-3514.67.6.1112.

Larsen, R. J., & Prizmic, Z. (2004). Affect regulation. In R. F. Baumeister & K. D. Vohs (Eds.), *The handbook of self-regulation*. New York, NY: Guilford Press.

Lischetzke, T., & Eid, M. (2006). Why extraverts are happier than introverts: The role of mood regulation. *Journal of Personality, 74*, 1127–1161. http://dx.doi.org/10.1037/0022-3514.85.3.528.

Lucas, R. E., & Fujita, F. (2000). Factors influencing the relation between extraversion and positive affect. *Journal of Personality and Social Psychology, 79*, 1039–1056. http://dx.doi.org/10.1037//0022-3514.79.6.1039.

Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin, 131*, 803–855. http://dx.doi.org/10.1037/0033-2909.131.6.803.

Mauss, I. B., Evers, C., Wilhelm, F. H., & Gross, J. J. (2006). How to bite your tongue without blowing your top: Implicit evaluation of emotion regulation predicts affective responding to anger provocation. *Personality and Social Psychological Bulletin, 32*, 589–602. http://dx.doi.org/10.1177/0146167205283841.

Mauss, I. B., Tamir, M., Anderson, C. L., & Savino, N. S. (2011). Can seeking happiness make people unhappy? Paradoxical effects of valuing happiness. *Emotion, 11*, 807–815. http://dx.doi.org/10.1037/a0022010.

Morris, W. N., & Reilly, N. P. (1987). Toward the self-regulation of mood: Theory and research. *Motivation and Emotion, 11*, 215–249. http://dx.doi.org/10.1007/BF01001412.

Oettingen, G., & Mayer, D. (2002). The motivating function of thinking about the future: Expectations versus fantasies. *Journal of Personality and Social Psychology, 83*, 1198–1212. http://dx.doi.org/10.1037//0022-3514.83.5.1198.

Parkinson, B., & Totterdell, P. (1999). Classifying affect-regulation strategies. *Cognition and Emotion, 13*, 277–303. http://dx.doi.org/10.1080/026999399379285.

Parrott, G. W. (1993). Beyond hedonism: Motives for inhibiting good moods and for maintaining bad moods. In D. M. Wegner & J. W. Pennebaker (Eds.), *Handbook of mental control* (pp. 278–305). Upper Saddle River, NJ: Prentice-Hall.

Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Journal of Applied Psychological Measures, 1*, 385–401. http://dx.doi.org/10.1177/014662167700100306.

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meanings of psychological well-being. *Journal of Personality and Social Psychology, 57*, 1069–1081. http://dx.doi.org/10.1037//0022-3514.57.6.1069.

Salovey, P., Mayer, J. D., Goldman, S. L., Turvey, C., & Palfai, T. P. (1995). Emotional attention, clarity, and repair: Exploring emotional intelligence using the Trait Meta-Mood Scale. In J. W. Pennebaker (Ed.), *Emotion, disclosure, and health* (pp. 125–154). Washington, DC: American Psychological Association.

Scheier, M. F., Carver, C. S., & Bridges, M. W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A re-evaluation of the life orientation test. *Journal of Personality and Social Psychology, 67*, 1063–1078. http://dx.doi.org/10.1037//0022-3514.67.6.1063.

Seligman, M. E. P., Steen, T. A., Park, N., & Peterson, C. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist, 60*, 410–421. http://dx.doi.org/10.1037/0003-066X.60.5.410.

Sheldon, K. M., & Lyubomirsky, S. (2006). How to increase and sustain positive emotion: The effects of expressing gratitude and visualizing the best possible selves. *The Journal of Positive Psychology, 1*, 73–82. http://dx.doi.org/10.1080/17439760500510676.

Shiota, M. N. (2006). Silver linings and candles in the dark: Differences among positive coping strategies in predicting well-being. *Emotion, 6*, 335–339. http://dx.doi.org/10.1037/1528-3542.6.2.335.

Srivastava, S., Angelo, K. M., & Vallereux, S. R. (2008). Extraversion and positive affect: A day reconstruction study of person–environment transactions. *Journal of Research in Personality, 42*, 1613–1618. http://dx.doi.org/10.1016/j.jrp. 2008.05.002.

Srivastava, S., Tamir, M., McGonigal, K. M., John, O. P., & Gross, J. J. (2009). The social costs of emotional suppression: A prospective study of the transition to college. *Journal of Personality and Social Psychology, 96*, 883–897. http://dx.doi.org/10.1037/a0014755.

Tamir, M. (2005). Don't worry, be happy? Neuroticism, trait-consistent affect regulation, and performance. *Journal of Personality and Social Psychology, 89*, 449–461. http://dx.doi.org/10.1037//0022-3514.89.3.449.

Thayer, R. E., Newman, J. R., & McClain, T. M. (1994). Self-regulation of mood: Strategies for changing a bad mod, raising energy, and reducing tension. *Journal of Personality and Social Psychology, 67*, 910–925. http://dx.doi.org/10.1037//0022-3514.67.5.910.

Tkach, C., & Lyubomirsky, S. (2006). How do people pursue happiness? Relating personality, happiness-increasing strategies, and well-being. *Journal of Happiness Studies, 7*, 183–225. http://dx.doi.org/10.1007/s10902-005-4754-1.

Tugade, M. M., & Fredrickson, B. L. (2004). Resilient individuals use positive emotions to bounce back from negative emotional experiences. *Journal of Personality and Social Psychology, 86*, 320–333. http://dx.doi.org/10.1037/0022-3514.86.2.320.

Watson, D., & Clark, L. A. (1997). Extraversion and its positive emotional core. In R. Hogan & J. A. Johnson (Eds.). *Handbook of social psychology* (4th ed.) (Vol. 2, pp. 446–496). New York: McGraw-Hill.

Wood, J. V., Heimpel, S. A., & Michela, J. L. (2003). Savoring versus dampening: Self-esteem differences in regulating positive affect. *Journal of Personality and Social Psychology, 85*, 566–580. http://dx.doi.org/10.1037/0022-3514.85.3.566.