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Positive emotion regulation and well-being: Comparing the impact of eight savoring and dampening strategies

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ABSTRACT

Although previous research has uncovered various ways people can savor or dampen their positive emotional experiences, the *unique* impact of each of these strategies on well-being remains unknown. The present study examines the relative impact of the main positive emotion regulation strategies on two components of well-being: positive affect (PA) and life satisfaction (LS). A total of 282 participants completed measures of PA, LS, overall happiness, and the savoring and dampening strategies they typically used. Results show that when experiencing positive events, focusing attention on the present moment and engaging in positive rumination promoted PA, whereas telling others promoted LS. In contrast, being distracted diminished PA, while focusing on negative details and engaging in negative rumination reduced LS. As the strategies targeted different components of well-being, our results further show that regulatory diversity (i.e., typically using various strategies rather than a few specific ones), was beneficial to overall happiness. Our findings suggest that there are several independent ways to make the best (or the worst) out of our positive emotions, and that the cultivation of multiple savoring strategies might be required to achieve lasting happiness.

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1. Introduction

Is there an optimal approach to maximize our positive emotions? Recent scientific research has identified different strategies that can be utilized to maintain and increase one's positive emotional experience (i.e., *savoring*; Bryant, 1989, 2003), but also how certain strategies can decrease positive affect (i.e., *dampening*; Parrott, 1993; Wood, Heimpel, & Michela, 2003). Whereas previous studies have shown that, overall, the way we regulate our positive emotions can have a crucial impact on our well-being – savoring being beneficial while dampening detrimental (Bryant, 1989, 2003; Bryant & Veroff, 2007; Eisner, Johnson, & Carver, 2009; Gross, Richards, & John, 2006; Tugade & Fredrickson, 2007), little is known about the relative utility of specific strategies. The present paper aims to address this gap by examining the unique impact of the main savoring and dampening strategies on well-being.

Important individual differences exist in the way people typically regulate their positive emotions (Gross & John, 2003). For instance, Wood et al. (2003) showed that high self-esteem individuals are more likely to savor positive experiences, whereas low self-esteem individuals tend to dampen them. Similarly, peo-

ple with lower incomes exhibit a stronger tendency to savor than their wealthier counterparts (Quoidbach, Dunn, Petrides, & Mikolajczak, *in press*). Such individual differences in the propensity to savor or dampen positive emotions may play an important role for one's overall well-being. Indeed, the broaden-and-build theory suggests that the cultivation of positive emotions helps to build lasting resources that, in turn, enhance life satisfaction, increase the likelihood of experiencing future positive emotions, and foster resilience to negative one's (Fredrickson, 1998, 2001; Fredrickson & Branigan, 2005; Tugade & Fredrickson, 2004).

What strategies do people use to regulate their positive emotions? In a recent article validating a new general measure of emotion regulation, Nelis, Quoidbach, Hansenne, and Mikolajczak (*in press*) reviewed the literature on positive emotion regulation over the last 30 years. Their review suggests that individuals typically engage in four broad categories of dampening behaviors and four categories of savoring behaviors. Given that these strategies are the focus of the present paper, we will briefly detail them hereafter (for more information on the different strategies, see Nelis et al., *in press*).

1.1. Savoring strategies

The first approach to prolonging and increasing positive emotional experiences is through *Behavioral Display*, that is, by

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expressing positive emotions with non-verbal behaviors. Studies have shown that the facial expression of emotion may play a causal role in the subjective experience of emotion (see e.g., Adelman & Zajonc, 1989; Finzi & Wasserman, 2006; McIntosh, 1996; Strack, Martin, & Stepper, 1988).

A second strategy consists of efforts to *Be Present*, by deliberately directing attention to the present pleasant experience. Both correlational and experimental studies have shown that this strategy is linked with the increased intensity and frequency of positive emotions (Bryant, 2003; Erisman & Roemer, 2010).

A third strategy implies communicating and celebrating positive events with others – a strategy labeled *Capitalizing* (Langston, 1994). Capitalizing is associated with increased daily positive affect, over and above the impact of the positive event itself (Gable, Reis, Impett, & Asher, 2004; Langston, 1994) and improved immune response (Labott, Ahleman, Wolever, & Martin, 1990).

Finally individuals can engage in *Positive Mental Time Travel* (Positive MTT) by vividly remembering or anticipating positive events – two abilities that are very closely related (see e.g., Suddendorf & Corballis, 2007). Indeed, both cross-sectional and experimental studies have shown that positive MTT predicts happiness (Bryant, Smart, & King, 2005; Havighurst & Glasser, 1972; Lyubomirsky, Sousa, & Dickerhoof, 2006; MacLeod & Conway, 2005; Quoidbach, Wood, & Hansenne, 2009).

1.2. Dampening strategies

Not all reactions to positive events increase positive emotions. Sometimes purposely, often automatically, individuals can dampen their positive emotional experiences.

One such reaction is that of *Suppression* (i.e., repressing or hiding positive emotions due to shyness, sense of modesty, or fear, for example). Gross and John (2003) showed that the tendency to suppress positive emotions is negatively associated with trait positive affectivity, life satisfaction, and psychological well-being. The expressive suppression of positive emotions also bears physiological costs and leads to a decrease in the subjective enjoyment of a positive experience (Gross & Levenson, 1997).

Individuals can also dampen their positive experiences through *Distraction*, that is, by engaging in activities and thoughts – often worries – unrelated to the current positive event. The propensity to experience lapses of attention has been associated with negative consequences in terms of long-term affective well-being (Carriere, Cheyne, & Smilek, 2008).

Fault Finding – paying attention to the negative elements of otherwise positive situations or focusing on what could be even better – is another strategy that has been found to negatively correlate with happiness, optimism, self-esteem, and life satisfaction (Larsen & McKibban, 2008; Polman, 2010; Schwartz et al., 2002).

Finally, people can engage in *Negative Mental Time Travel* (Negative MTT), which encompasses negative reminiscence such as reflecting on the causes of a positive event with an emphasis on external attribution (e.g., “I got an A because the exam was really easy”) and negative anticipations of its future consequences (e.g., “My streak of luck is going to end soon, I’d better be careful”, “These positive feelings won’t last”). This type of cognition has been associated with lower self-esteem, greater rumination, and more severe depressive symptoms (Feldman, Joormann, & Johnson, 2008; see also Sweeney, Anderson, & Bailey, 1986).

1.3. The present study

Are all of these strategies equally beneficial or detrimental to our well-being? Are they interchangeable or do they uniquely and specifically target different aspects of well-being? Whereas previous research on positive emotion regulation have examined

either the effectiveness of a limited number of specific strategies (e.g., Bryant, 2003; Bryant et al., 2005; Langston, 1994; Nezlek & Kuppens, 2008) or the consequences of the overall savoring and/or dampening abilities (e.g., Feldman et al., 2008; Wood et al., 2003), no study has compared the unique contribution of the main positive emotion regulation strategies to well-being. Yet, the cultivation of positive emotion has recently been promoted by an explosion of research on happiness enhancing interventions (e.g., Brown & Ryan, 2003; Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008; Lyubomirsky, Sheldon, & Schkade, 2005; Sin & Lyubomirsky, 2009). Therefore assessing which positive emotion regulation strategies are the most effective (or detrimental) could provide valuable insights in designing optimal well-being interventions.

Moreover, whereas well-being is typically referred as being composed of two different elements – emotional well-being (i.e., positive affect) and cognitive well-being (i.e., life satisfaction) – whose relative independence has been extensively emphasized (see Diener, Suh, Lucas, & Smith, 1999 for a review), little is known about how savoring and dampening strategies could specifically target one of these two components. Indirectly supporting this speculation are studies showing that emotional and cognitive well-being can fluctuate independently from each other (see Diener, Lucas, & Scollon, 2006 for a review). For example, positive affect tends to decrease over the life span while life satisfaction tends to increase (Diener et al., 2006). If certain strategies were found to be more efficient to increase emotional well-being while others more efficient to increase cognitive well-being, then *regulatory diversity* (i.e., typically using various savoring strategies) would lead to a greater general sense of happiness than *regulatory specificity* (i.e., typically using a few specific strategies). This intuitive – yet previously untested – hypothesis has been originally suggested by Mikolajczak (2009) with regards to the regulation of negative emotions: By simultaneously or successively using different categories of regulation strategies (e.g., physio-relaxing techniques, cognitive re-appraisal, problem-focused coping...), one acts on the different components of negative emotional experiences which improves the effectiveness of emotion regulation.

Consequently, the purpose of the present paper is twofold. We first examined the unique predictive validity of the main savoring and dampening strategies previously reviewed on both emotional and cognitive well-being. We then investigate whether regulation diversity is associated with higher overall happiness than regulation specificity.

2. Method

2.1. Participants

A total of 282 participants were recruited via the Intranet of a Belgian University (73% females; $M_{\text{age}} = 33.6$; $SD = 13.9$) and asked to complete online measures of general happiness, positive affect, and dispositional positive emotion regulation strategies. Among these participants, 82 also completed measures of life satisfaction. Participants included students (25%) and university employees (75%), ranging all the way from custodial staff to senior administrators. Students and employees did not differ in any of the study variable.

2.2. Measures

The Typical Use of Savoring and Dampening Strategies was assessed through the emotion regulation profile-revised (ERP-R), a vignette-based instrument measuring individuals’ typical ability to regulate both negative and positive emotions (Nelis et al., in press). Of interest in the present study was the savoring positive

emotion scale, which includes six detailed descriptions of situations eliciting contentment, joy, awe, excitement, pride, and gratitude, respectively. For example, participants are asked to imagine finishing an important task (contentment), spending a romantic weekend away (joy), or discovering an amazing waterfall while hiking (awe). Each scenario is followed by eight possible reactions based on the four main savoring strategies and the four dampening strategies described in the introduction. Respondents were allowed to select as many reactions as they wanted as long as they accurately reflected their typical behavior in the kind of situation described. Respondents were credited 1 point every time a specific strategy was selected and 8 scores, representing the use of each regulation strategy across the different scenarios, were then computed. The ERP-R has been shown to demonstrate good psychometric properties, including convergent, divergent, and predictive validity (see Nelis et al., in press).

Emotional well-being (i.e., positive affect) was measured via the Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988). The positive affect subscale is comprised of 10 mood related adjectives for which subjects were asked to indicate the extent to which they were feeling each emotion on a 5-point scale ($\alpha = .84$).

Cognitive well-being (i.e., life satisfaction) was measured using the satisfaction with life scale (SWLS; Diener, Emmons, Larsen, & Griffitt, 1985), composed of five items scored on a 7-point scale ($\alpha = .90$).

Overall happiness was assessed using the subjective happiness scale (SHS; Lyubomirsky & Lepper, 1999). This well-validated instrument composed of four 7-point items provides a global, subjective assessment of whether one is a happy or an unhappy person, that encompasses both emotional and cognitive well-being ($\alpha = .85$).

3. Results

3.1. Unique contribution of each regulation strategy to well-being

Means and inter-relationships between emotion regulation strategies, positive affect, and life satisfaction are presented in Table 1. Overall, the four savoring and four dampening strategies were moderately to largely correlated to each other in meaningful and theoretically congruent ways. That is, savoring strategies were positively correlated to each other while being negatively related to dampening strategies, and vice versa. In order to investigate the unique impact of each strategy on positive affect and life satisfaction, we conducted two multiple regression analyses (see Table 2). Results show that positive affect was negatively predicted by distraction, while being positively predicted by positive MTT and being present. Life satisfaction was negatively predicted by the use of fault finding and negative MTT while being positively predicted by capitalizing. Altogether the regulation strategies ex-

plained 10% and 18% of the variance in positive affect and life satisfaction, respectively. Note that none of these results were significantly moderated by the gender or the age of participants ($P_s > .10$), suggesting that savoring and dampening strategies might be as beneficial (or detrimental) for individuals of every age and gender.

3.2. Regulatory diversity and overall happiness

Given that our analyses revealed that the different regulation strategies have specific impact on the two facets of well-being, we verified our hypothesis that using multiple savoring strategies could be beneficial for overall happiness. First, we computed a total savoring score by adding the total number of savoring strategies selected across the six scenarios of the ERP-R. Second, we created a diversity score by counting how many different types of strategies participant used to achieve their total score (from 0 to 4). As we expected, these scores were highly correlated but not redundant ($r = .67, p < .001$). This suggests that some participants could achieve the same total savoring score by either selecting a limited number of strategies in a wide range of situations, or by selecting a wide range of strategies in a limited number of situations.

We then entered total savoring scores and diversity scores (Step 1), and their interaction (Step 2) into a stepwise multiple regression analysis predicting overall happiness. Supporting our hypothesis, results show that savoring and regulatory diversity both independently significantly predicted happiness ($\beta = .17, t(280) = 2.27, p = .02$ and $\beta = .24, t(280) = 3.22, p < .01$, respectively). As depicted in Fig. 1, the interaction term was also significant, $t(280) = 2.35, p = .02$, suggesting that the positive relationship between savoring and happiness was exacerbated when participants used a wider range of savoring strategies.

4. Discussion

The present study is the first to investigate the *unique* impact of positive emotion regulation strategies on the different components that make up well-being. Consistent with our prediction, results show that, in the realm of well-being not all strategies are created equal.

Emotional well-being (i.e., positive affect) was positively predicted by being present and positive MTT, and negatively by distraction. These results suggest that high levels of daily positive emotions can mainly be achieved via two distinct – and conceptually opposite – strategies. The first consists of a mindful approach in which one focuses attention on the present moment and systematically suppresses thoughts unrelated to the current experience. The effectiveness of this approach may be explained by the fact that people spend most of their time in a positive emotional state (Kahneman, Krueger, Schkade, Schwarz, & Stone, 2004). In-

Table 1

Means, standard deviations, and intercorrelations between the different regulation strategies and well-being variables.

	M (SD)	1	2	3	4	5	6	7	8	9	10	
1	Distraction	0.7 (1.1)	–									
2	Fault finding	0.8 (1.0)	.30**	–								
3	Negative MTT	0.5 (0.9)	.27**	.27**	–							
4	Suppression	0.6 (1.1)	.26**	.21**	.26**	–						
5	Behavioral display	2.8 (1.8)	–.28**	–.12*	–.07	–.31**	–					
6	Capitalizing	2.7 (1.8)	–.17**	–.09	–.09	–.25**	.57**	–				
7	Being present	3.7 (1.6)	–.38**	–.28**	–.19**	–.24**	.57**	.52**	–			
8	Positive MTT	3.1 (1.7)	–.18**	–.05	–.03	–.01	.48**	.53**	.52**	–		
9	Positive affect	3.0 (0.6)	–.25**	–.14*	–.11	–.12*	.15*	.10	.29**	.23**	–	
10	Life satisfaction	5.0 (1.2)	.07	–.31**	–.32**	–.01	.02	.27*	.17	.09	.25*	–

* $p < .05$.

** $p < .01$.

Table 2

Multiple regression analyses with positive affect and life satisfaction as dependant variables and the different emotion regulation strategies as predictors.

	Positive affect		Life satisfaction	
	β	<i>t</i>	β	<i>t</i>
Distraction	-.14*	2.21	.16	1.33
Fault finding	-.03	0.47	-.25*	2.03
Negative MTT	-.05	0.58	-.31*	2.62
Suppression	-.06	0.95	.12	1.00
Behavioral display	-.04	0.58	-.12	0.73
Capitalizing	-.12	1.52	.31*	2.01
Being present	.20*	2.45	.05	0.31
Positive MTT	.08*	2.45	-.06	0.38

Note: Positive affect: adjusted $R^2 = 0.10$, $p < .001$.

Life satisfaction: adjusted $R^2 = 0.18$, $p < .01$.

* $p < .05$.

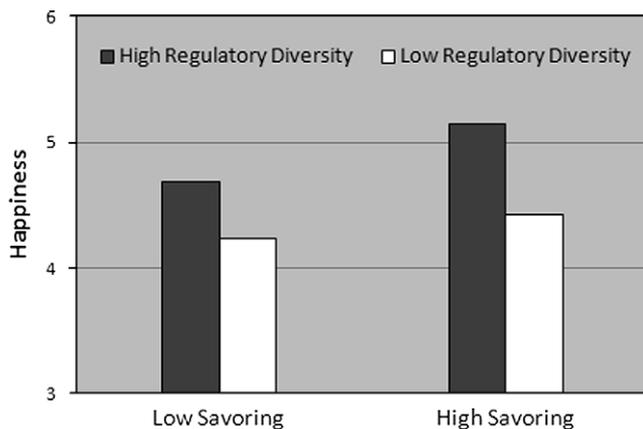


Fig. 1. Regulatory diversity exacerbated the relationship between savoring and happiness.

deed, the best predictor of daily positive affect is the absence of alienation from the self (Csikszentmihalyi & Larson, 1987). By being present and avoiding worrying, one maximizes pre-existing positive affect. The second approach, in contrast, consists of stepping back from the present experience to mentally travel through time to remember or anticipate positive personal events. This finding is in line with previous research showing that participants who had to engage daily in 2×10 min of positive reminiscence report increases in the percentage of time they feel happy (Bryant et al., 2005). The very different nature of these two approaches to attain emotional well-being is of interest for well-being interventions, as the importance of selecting happiness enhancing activities which are congruous with personality and lifestyle has recently been highlighted (Lyubomirsky et al., 2005).

Cognitive well-being (i.e., life satisfaction) was positively predicted by capitalizing and negatively by fault finding and negative MTT. These findings are in line with a previous study on capitalization which showed that telling others about positive events enhances life satisfaction (Gable et al., 2004). Although the underlying mechanisms of such an effect requires further investigation, one might hypothesize that capitalizing may promote cognitive well-being by fostering positive social interactions. By satisfying the basic human need for belongingness (Baumeister & Leary, 1995) and providing the necessary assistance when difficulties arise, positive relationships are an important determinant of life satisfaction (Diener & Diener, 1995). Furthermore, Gable et al. (2004) suggested that sharing positive experiences may allow individuals to perceive themselves positively in the eyes of others, hence boosting self-esteem and facilitating positive appraisals of one's life.

In this study, two dampening strategies appeared to be particularly detrimental to life satisfaction: fault finding and negative MTT. Findings regarding fault finding are rather intuitive and self-explanatory. Individuals who systematically attend to imperfections and what could be better in positive situations, are of course less likely to be satisfied with their life (for similar findings, see Polman, 2010; Schwartz et al., 2002). Similarly, the tendency to mentally re-live positive events or pre-live their future repercussions in a negative manner (i.e., external attribution of success, guilt, fear of negative consequences...) decreases life satisfaction. Again, such findings are in accordance with studies showing the key role played by future thinking in people's well-being (e.g., MacLeod & Conway, 2005; Quoidbach et al., 2009).

It is noteworthy to mention that contrary to previous findings which showed that social sharing of positive events increases positive emotion (Gable et al., 2004; Langston, 1994), capitalization was not associated with positive affect in our study. However, Gable and colleagues (2004) also suggested that the effect of capitalization on positive affect could be explained by the fact that sharing a positive event with others requires retelling the event, which creates an opportunity to re-experience it. Although null results should be interpreted with caution, the present findings support that hypothesis by showing that when other forms of savoring – including positive reminiscence – are controlled for, capitalizing does not have a unique effect on positive affect. A parallel can also be drawn with research on the social sharing of negative emotions that shows that telling others about one's feelings has no direct effect on emotions but rather facilitate other regulatory processes (e.g., cognitive re-appraisal, distraction, etc.) which, in turn, help decrease distress (see Rimé, 2007 for a review).

The present findings suggest that there are several independent ways to make the best (or the worst) out of our positive emotions and that, as they target specific facets of well-being, the cultivation (or the avoidance) of all of these different strategies might facilitate lasting happiness. In support of this idea, we found that the wider the range of type of savoring strategies participants used, the happier they reported to be, independently of their total savoring score. Consequently the happier participants were the ones that typically savored various situations using various strategies. The novel notion of regulatory diversity highlighted by this study could be of particular interest for happiness interventions. Whereas numerous self-help books and training programs focus on a specific technique (e.g., mindfulness meditation), our results suggest that one can become even happier by learning not only how to focus on the present moment but also how to proficiently step back from it while also as sharing their experiences with friends. This conclusion is consistent with studies suggesting that variety might be a key element of successful happiness enhancing activities (Lyubomirsky et al., 2005).

In addition to fostering happiness via different routes, the expansion of people's savoring strategy repertoire might also allow the up-regulation of positive emotions in a broader range of situations, enhancing their flexibility (see Mikolajczak, 2009). For instance, if your typical savoring strategy is to share your positive experiences with your friends, improving your ability to mindfully contemplate the present moment or to relish mental simulations, will help you savor positive moments even if no one is around. Hence, our findings contribute to the increasing body of evidence emphasizing the importance of the flexibility of biological and psychological processes for well-being. For example, Bonanno, Papa, Lalande, Westphal, and Coifman (2004) found that adjustment to the first two years of college depended less on regulatory strategies per se than on the ability to flexibly

use different regulatory strategies in accord with situational demands. Likewise, flexibility in the levels of morning cortisol between work and rest days has been found to be a better predictor of happiness than the magnitude of these levels (Mikolajczak et al., in press).

Although this study breaks new ground in several ways, we acknowledge several limitations, which leave ample room for future research to probe or refine the findings. First, the sample was drawn from a university population and future studies should investigate the effect of the different regulation strategies in a more diverse sample. Second, data were collected via self-reports. Thus, an important goal of future research lies in investigating the specific contribution of the different savoring strategies as well as the notion of regulatory diversity using experimental paradigms and more objective measures of well-being (e.g., experience-sampling, physiological markers, etc.).

Notwithstanding these limitations and the preliminary nature of our findings, our research suggests that practicing as many savoring strategies as possible, whilst avoiding the many faces that dampening can take, is likely the best way to regulate positive emotions.

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