

The Emerging Field of Positive Emotion Dysregulation

To appear in: *Handbook of Self-Regulation: Research, Theory and Applications*

(Eds. Kathleen Vohs & Roy Baumeister)

Alta du Pont¹, Keith Welker¹, Kirsten E. Gilbert², & June Gruber^{1*}

¹ University of Colorado Boulder, Department of Psychology & Neuroscience

² Northwestern University, Feinberg School of Medicine

**Corresponding Author*

June Gruber, Ph.D.

Department of Psychology and Neuroscience

University of Colorado Boulder

1905 Colorado Avenue

345 UCB, Muenzinger Hall D321C

University of Colorado, Boulder

Boulder, CO 80309

Email: june.gruber@colorado.edu

Phone: 510-410-3822

The Emerging Field of Positive Emotion Dysregulation

Regulating one's emotions is a critical part of life—from biting one's tongue while sitting in traffic to appearing excited about an unwanted gift. Scientific research on emotion regulation has highlighted its wide-ranging importance across a range of areas, including physical health, mental well-being, and even psychopathology (e.g., Denollet et al., 1996; Dillon, Deveney, & Pizzagalli, 2011). This work has provided insight into the regulation of both negative and, to a lesser extent, positive emotions. Studying positive emotion regulation is particularly important for understanding disorders that feature disturbances in positive emotion, such as bipolar disorder, depression, and substance abuse (Gruber, Dutra, Hay, & Devlin, 2014; Hechtman, Raila, Chiao, & Gruber, 2013). Given the significant public health costs associated with these disorders, it is critical to understand the role of positive emotion dysregulation in psychological health and well-being.

In the current chapter, we provide an initial working framework for studying positive emotion dysregulation. By *positive emotion dysregulation*, we refer to difficulty successfully managing positive emotional responses that include both failing to regulate positive emotions when it would be helpful to do so (i.e., positive emotion regulation failures) and using strategies that are poorly matched to the context (i.e., positive emotion misregulation). We begin with a brief overview of the positive emotion regulation literature, focusing on how positive emotions are typically regulated as well as the psychological outcomes associated with both successful and unsuccessful attempts to regulate positive emotions. We then ask how and when positive emotion dysregulation occurs, highlighting key themes from the emerging literature. Next, we consider sources of individual variation in positive emotion dysregulation including examples

related to key personality dimensions as well as lifespan development perspectives. We conclude with suggestions for future research.

Positive Emotion Dysregulation

Despite the historical focus on negative emotion regulation, recent work suggests that positive emotions are frequently regulated. Indeed, research suggests that people regulate the majority of their positive emotion experiences during the course of everyday life (Heiy & Cheavens, 2014). Not only is positive emotion regulation prevalent, it is also of critical importance to well-being and health (e.g., Fredrickson & Joiner, 2002; Pressman & Cohen, 2005). Adaptive regulation of positive emotions is associated with improved resilience, diminished reactivity to stress, and increased longevity (Danner, Snowdon, & Friesen, 2001; Fredrickson, Mancuso, Branigan, & Tugade, 2000; Tugade & Fredrickson, 2004). Furthermore, difficulty regulating positive emotion is a core component of numerous psychiatric disorders, such as bipolar disorder, major depressive disorder, and substance use disorders (e.g., Gross, 2015; Gruber et al., 2014).

To provide clarity in discussing this emerging field, we briefly define positive emotion and positive emotion regulation. By *positive emotion*, we hereby refer to brief, positively-valenced affective states that involve coordinated subjective, physiological, and behavioral changes, and motivate goal-directed behavior (e.g., Clore & Colcombe, 2003; Rottenberg & Gross, 2003). Our use of the term “positive emotion” encompasses both transient states in which positive affect is elicited as well as more longer lasting positive moods (e.g., Fredrickson, 1998). Although there are also more enduring patterns of individual differences in dispositional positive emotionality, we consider this outside of the scope of the current chapter. By *positive emotion regulation*, we refer to the processes by which an individual modifies the positive emotions they

experience, and the timing, duration, and expression of these emotions in response to a goal (Gross & Thompson, 2007; Gross, 1998). By focusing explicitly on the regulation of positive emotional responses, we differentiate this chapter from extant work on the field of emotion dysregulation more generally (Gross & Jazaieri, 2014).

The majority of research on positive emotion regulation has focused on the benefits of experiencing positive emotion. Heightened positive affect is associated with a range of cognitive, social, and physical health benefits. Individuals who experience higher levels of positive affect demonstrate improved resistance to illness and longevity (Cohen, Alper, Doyle, Treanor, & Turner, 2006; Danner et al., 2001). Psychologically, successful positive emotion up-regulation has been repeatedly associated with heightened interpersonal functioning, including better social support networks (Fredrickson, 1998), increased cooperation (Forgas, 1998; Rand, Kraft-todd, & Gruber, 2015), and more frequent helping behaviors (Isen, Clark, & Schwartz, 1976; Isen, 1970). Improved cognitive functioning—measured as augmented creativity, cognitive flexibility, and problem solving—has also been associated with increased self-reports of positive emotion (Fredrickson, Tugade, Waugh, & Larkin, 2003; Isen, 2008).

A Framework for Understanding Positive Emotion Dysregulation

Although it is often advantageous to cultivate positive emotions, there are significant costs associated with failing to regulate or inappropriately regulating positive emotions. For example, excessively heightened positive emotionality in young children predicts more alcohol consumption, smoking, and increased mortality rates into adulthood (Martin et al., 2002). Moreover, difficulties down-regulating positive emotions are associated with greater manic symptom severity (Giovannelli, Hoerger, Johnson, & Gruber, 2013; Gruber et al., 2009), suggesting that positive emotion disturbance is an important predictor of psychopathology. Our

goal is to provide a simple framework to indicate ways in which positive emotion regulation failures may occur (see **Table 1**). Specifically, we discuss four possible ways that positive emotion can be regulated, including up-regulation of positive emotion, down-regulation of negative emotion via positive emotion, down-regulation of positive emotion, and down-regulation of positive emotion via negative emotion (e.g., Gross, 2015; Troy, Shallcross, & Mauss, 2013).

Up-regulation of positive emotion occurs when a person maintains or enhances the magnitude of their positive emotion experience, often in service of immediate hedonic goals, such as feeling pleasure (Tamir, 2009). Up-regulating and experiencing positive emotions are typically associated with a wide range of benefits. For example, Fredrickson and colleagues have demonstrated that individuals who up-regulate their positive emotions more frequently (as instructed through a 6-week meditation-based intervention) experience fewer illness symptoms, increased social support, heightened self-acceptance, and improved life satisfaction (Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008). While research has emphasized the benefits of experiencing and up-regulating positive emotions, less work has examined the consequences of failing to do so. Initial findings suggest that this may be a critical avenue for future research, as failures to up-regulate positive emotion may be implicated in anhedonia, a component of major depressive disorder (Heller et al., 2009).

Next, *down-regulation of negative emotions via positive emotions* occurs when positive emotions are used to reduce or modify the intensity, duration or type of negative emotion experienced (Fredrickson, Mancuso, Branigan, & Tugade, 2000). Used in this way, positive emotions can aid in physiological recovery from stress (Brosschot & Thayer, 2003; Fredrickson et al., 2000). This is supported by research conducted after the 9/11 terrorist attacks, which

demonstrated that experiencing positive emotions during times of stress and negative emotion can facilitate resilience and buffer individuals from depressive symptoms (Fredrickson et al., 2003). This work highlights the importance of leveraging positive emotions to reduce negative affect, yet the consequences of failing to use positive emotions to reduce negative affect and the role of this process in psychopathology have not been empirically explored.

Positive emotion regulation also includes the *down-regulation of positive emotion*, or the process of decreasing the intensity or duration of a positive emotion experience. Rather than always wanting to feel positive emotion, people may down-regulate positive emotion in a wide range of contexts to achieve instrumental goals (e.g., Tamir, 2009; Williams & DeSteno, 2008). For example, an person may want to decrease their positive emotions to improve concentration (e.g., turning off happy music to minimize distractions when studying), suppress inappropriate displays of positive emotion (e.g., laughing at a funeral), and to be considerate of others (e.g., suppressing pride when you succeed and a friend does not) (Parrott, 1993). Research has long focused on the benefits of experiencing positive emotion and thereby the importance of up-regulating positive affect, and little empirical work has directly tested why and when individuals are motivated to down-regulation their positive emotions (e.g., Giuliani, McRae, & Gross, 2008; Gruber et al., 2011; Samson & Gross, 2014).

Lastly, positive emotion regulation includes the *down-regulation of positive emotion via negative emotion*. This involves leveraging negative emotions to regulate positive emotions. While understudied, initial findings suggest that some individuals use negative emotions to regulate experiences of positive emotion. Previous research has largely neglected the distinction between down-regulating positive emotion and down-regulating positive emotion using negative emotion. While additional research is essential for a deeper understanding of how and when

individuals use negative emotions to down-regulate positive emotions, this form of emotion regulation may be a central component of anxiety disorders and major depressive disorder, in which individuals experience low levels of positive affect and heightened intolerance of uncertainty, worry, and guilt (Yook, Kim, Suh, & Lee, 2010).

How Does Positive Emotion Dysregulation Occur?

Building upon the four ways in which positive emotions can be regulated, we point to several key themes in emerging literature that illuminate how positive emotion regulation failures might occur. These themes are intended to provide an orienting landscape for thinking about disturbances in positive emotion regulation. We acknowledge that these are a starting point and not an endpoint or definitive list of all such instances of positive emotion regulation failure. Our hope is that these initial key insights will spark curiosity and ignite emerging research on failures to regulate positive emotions. The themes of positive emotion dysregulation that we discuss in this chapter include the *size* of one's positive emotion responses, the *situation* or context in which positive emotions unfold, the *self-regulation* of one's positive feelings, the *stability* or how positive emotions dynamically change over time, and the *striving* or the degree to which one exerts effort in pursuing or attaining positive emotion (Gruber & Purcell, 2015).

Size or magnitude of positive emotion. While individuals who experience positive emotions often reap psychological and physical benefits, research suggests that excessively high levels of positive emotion are associated with negative psychological health outcomes. For example, high levels of positive emotions for adults with a clinical history of mania (i.e., bipolar disorder) can predict a more severe illness course in addition to greater relapse rates (Johnson, 2005). Research suggests that experiencing excessively low levels of positive emotion is also related to negative outcomes such as anhedonia and depression. Indeed, anhedonia, defined as a

loss of pleasure or diminished positive affect in response to stimuli that were previously rewarding, can be a core component of major depressive disorder that typically does not improve in response to medication (i.e., SSRIs) and is associated with poorer treatment outcomes (Moos & Cronkite, 1999; Spijker, Bijl, de Graaf, & Nolen, 2001). Examining individuals with excessively high or low positive emotionality allows for a better understanding of how the normative function of positive emotion can break down, providing a view into the associated cognitive, biological, and social consequences of positive emotion dysfunction.

Situation or context sensitivity of positive emotion. Both positive and negative emotions help us pursue and attain important goals. Fear, for example, can help a person remain safe in a threatening situation. Similarly, positive emotions such as gratitude are useful when one wants to foster cooperation and collaboration with others (e.g., Forgas, 1998; Isen et al., 1976). This instrumental approach to emotion regulation suggests that while people generally prefer to feel positive emotions, they can be motivated to experience emotions that are useful in a given context (Tamir, 2009). Consistent with this, research suggests that experiencing positive affect indiscriminately across contexts can be maladaptive. For example, research by Tamir, Mitchell, and Gross (2008) found that people induced into a happy mood performed worse on a competitive computer games than people in an angry mood. In line with this work, research has also found that individuals who experienced positive feelings in inappropriate situations – such as watching sad films or listening to a distressed partner – were at greater risk for developing mania (Gruber, Johnson, Oveis, & Keltner, 2008). Together, these findings indicate that positive emotion is not suited for every situation and can hinder a person's ability to successfully achieve their goals when experienced consistently across contexts.

Self-regulation of positive emotion. The ability to adaptively regulate one's emotions

has been linked to heightened well-being and social adjustment (Tamir et al., 2007) and improved mental health outcomes (e.g., Folkman & Moskowitz, 2000; Tugade & Fredrickson, 2004). In contrast, difficulties flexibly regulating or controlling one's emotions are associated with psychopathology (e.g., Gratz, Rosenthal, Tull, Lejuez, & Gunderson, 2006; Mennin, Heimberg, Turk, & Fresco, 2005). Less work has focused on the consequences of over- or under-regulating *positive* emotional experiences or the inability to flexibly regulate these experiences. Some examples of this type of positive emotion dysregulation can be seen by turning to clinical science research focusing on mood disorders. Individuals with bipolar disorder, for example, have trouble managing intense positive emotions central to episodes of mania (Gruber, 2011). The intensity of positive emotion during mania and the tendency for individuals with bipolar disorder to experience heightened positive emotion across contexts presents an opportunity to examine the consequences associated with under-regulation of positive emotion. By contrast, individuals with depression have difficulty effectively increasing or up-regulating positive emotions and a decreased ability to sustain positive emotions (for review, see Gruber et al., 2014). Focusing on individuals with depression may give insight into the costs associated with overregulating positive emotion and difficulties up-regulating positive emotion. Together, work on these two populations suggests that if positive emotions are not properly regulated, the beneficial effects commonly associated with them may be lost.

Stability of positive emotion across time. A complete understanding of the correlates of positive emotion requires more than an understanding of its overall mean levels; rather, positive emotion can only be fully understood when we account for temporal dynamics. For example, two people could be identical in their overall mean positive emotion levels but quite different in their emotional variability, with one person fluctuating very little from his/her average level, while the

other person fluctuates significantly. Greater fluctuations in positive affect, as measured via increased intra-individual variability in self-reported positive affect over repeated assessments in daily life, have been associated with worse psychological health, including lower well-being and life satisfaction, as well as greater depression and anxiety (Gruber, Kogan, Quoidbach, & Mauss, 2013). Thus, another way that positive emotion dysregulation can occur may be through inconsistent regulation (e.g., alternating between over- and under-regulation) of positive affect throughout the day.

Striving for or pursuit of positive emotion. Unsurprisingly, most people prefer to feel positive emotions. Despite this, research has found that actively striving for positive emotion (i.e., expending efforts to attain or maximize positive emotional experiences and intensity) is associated with negative psychological health outcomes (Ford, Shallcross, Mauss, Floerke, & Gruber, 2014; Ford, Mauss, & Gruber, 2015; Mauss, Tamir, Anderson, & Savino, 2011). In one such study, Mauss et al. (2011) found that participants who read an article about the benefits of feeling happy felt lower levels of positive affect after watching a happy film clip in comparison to those who read an article that did not mention happiness. Mauss and colleagues suggest that this paradoxical effect emerged because participants who were primed to value happiness became disappointed after falling short of their emotional expectation. Additional research has supported this finding, further suggesting that the pursuit of positive emotion may be associated with increased loneliness (Mauss et al., 2012), depressive symptoms (Ford et al., 2014), and manic symptoms (Ford et al., 2015). These initial findings point to the potential role of values and emotion beliefs in positive emotion dysregulation and suggest that the more people value happiness, the harder it may be for them to successfully obtain it.

In conclusion, there are numerous ways in which individuals fail to regulate or

misregulate their positive emotion experiences. Since many regulatory strategies and contexts are implicated in positive emotion regulation, these guiding themes provide an overarching framework of positive emotion dysregulation. Specifically, these themes emphasize some of the ways in which previous empirical work has examined positive emotion regulation while pointing to gaps in the current literature. These themes help address and integrate both the positive and negative consequences of regulating positive emotions for health and psychological well-being. For example, effective up-regulation of positive emotion can improve social connectedness (e.g., Fredrickson et al., 2008), and context appropriate down-regulation of positive emotion can facilitate improved performance and concentration (e.g., Tamir, Mitchell, & Gross, 2008).

Role of Individual Differences and Lifespan Development

The aforementioned guiding themes—size, situation, self-regulation, stability, and striving—highlight some of the different ways that difficulties regulating positive emotions can arise. In addition to a thematic perspective, individual difference and developmental lifespan approaches are critical to fully understand and identify potential sources of variation in these themes. In the following section, we briefly examine how personality traits and developmental transitions may contribute to or buffer individuals from positive emotion dysregulation. We acknowledge that these are merely discussion points and future empirical work is sorely warranted.

Individual differences in positive emotion regulation. Existing research has construed tendencies towards emotion regulation styles or strategies as a trait-like variable (Gross & John, 2003). In addition, specific personality traits may also predict positive emotion regulation. Below, we suggest that two traits from the widely established five-factor model (Digman, 1990) are useful for predicting positive emotional regulation: extraversion and neuroticism due to their

relation with positive and negative emotionality, respectively.

Broadly, extraversion is associated with positive emotionality (e.g., Cloninger, 1987; Costa & McCrae, 1980; Goldberg, 1990; Tellegen, 1985). In the context of positive emotion regulation, extraverted people are more susceptible to positive mood induction (e.g., Larsen & Ketelaar, 1991) and have increased neural reactivity to positive emotional stimuli (Lim, Woo, Bahn, & Nam, 2012). Extraversion is also negatively associated with emotional suppression (Gross & John, 2003) and positively related to relying on others rather than the self to regulate emotions (Kokkonen & Pulkkinen, 2001). From a positive emotion dysregulation framework, this research suggests that extraverted people are more likely to up-regulate positive emotions and less likely to down-regulate positive emotions. To our knowledge, no work has examined extraversion and the tendency to down-regulate negative emotions using positive emotions. However, because extraversion is associated with increased positive emotionality, positive emotions may be more readily available to extraverted people as a tool to down-regulate negative emotions.

Neuroticism is also a trait that may predict positive emotion regulation strategy use. Highly neurotic people experience higher levels of negative affect (Costa & McCrae, 1980), are more susceptible to negative mood induction compared to positive mood induction (Larsen & Ketelaar, 1989; Rusting & Larsen, 1997), and report experiencing fewer positive emotions (e.g., Shiota, Keltner, & John, 2006). In addition to being correlated with increased negative affect, higher neuroticism is associated with an increased tendency to value happiness (Ford et al., 2014). As noted above, the tendency to value happiness is associated with depressive symptoms (Ford et al., 2014; Mauss et al., 2011). This work suggests that neuroticism is associated with an increased motivation to experience positive emotions, but a diminished ability to successfully

up-regulate emotions and attain positive affective states. Thus, neuroticism may be associated with using strategies to down-regulate positive emotions and inversely associated with using strategies to up-regulate positive emotions. We know of no work specifically linking neuroticism to using positive emotions to down-regulate negative emotions or negative emotion to down-regulate positive emotions. However, the tendency for people with high neuroticism to experience more negative emotions and lower levels of positive emotion suggests that highly neurotic people are unlikely to deploy positive emotions to successfully down-regulate negative emotions and may instead tend to use negative emotions to down-regulate positive emotions.

Positive emotion dysregulation across the lifespan. Different developmental, social, and motivational contexts across the lifespan may also modulate goals of positive emotion regulation. As a person develops, their ability to regulate positive emotions and the potential ways in which positive emotion dysregulation can occur may shift and change. The majority of the current literature examining positive emotion regulation has been conducted in young adults, college samples, and middle-aged adults. Thus, we highlight how variation in adolescence and older adulthood, both of which are characterized by shifts in positive emotional experience and regulation, may be exemplars of how positive emotion regulation might go awry or differ across the lifespan.

The developmental period of adolescence is characterized by more extreme positive emotional states and stronger biases toward positive emotional stimuli when compared to both childhood and adulthood (Larson & Lampman-Petratis, 1989; Larson, Moneta, Richards, & Wilson, 2002; Larson & Richards, 1994). Similarly, adolescents exhibit increased physiological and neurobiological reactivity to positive emotional stimuli and reward (Ernst et al., 2005; Quevedo, Benning, Gunnar, & Dahl, 2009) due to earlier development of these positive and

motivational regions of the brain and slower development in regulatory regions of the brain (Ernst, Pine, & Hardin, 2006; Luna, Paulsen, Padmanabhan, & Geier, 2013). This mismatch of development leads to difficulties down-regulating positive emotions, particularly in the context of rewards. Difficulty with positive emotion down-regulation has been associated with maladaptive outcomes in adolescence, including increased sensation-seeking and risk-taking behaviors (e.g., substance abuse, unsafe driving, sexual promiscuity; Dahl, 2004; Steinberg, 2008) which can be magnified in the presence of peers (Gardner & Steinberg, 2005; Steinberg, 2010).

Adolescence is also characterized by other forms of positive emotion dysregulation, including maladaptive attempts to blunt positive emotional experiences. This work has largely focused on one specific form of maladaptive positive emotion regulation, referred to as dampening of positive emotion, that is associated with increased risk for mood symptom severity. Specifically, attempts to blunt positive emotion via use of maladaptive cognitions (i.e., endorsing items including, “think about things that could go wrong” or “remind yourself that these feelings won’t last”) are associated with the onset of depressive symptoms and self-harming behaviors in youth (Bijttebier, Raes, Vasey, & Feldman, 2012; Burke et al., 2014; Forbes & Dahl, 2012). Moreover, adolescents’ difficulties up-regulating positive emotion in a productive and context-specific way predicts elevated depressive symptoms (Fussner, Luebke, & Bell, 2014). In sum, adolescence appears to be an especially vulnerable time in life as it is characterized by extremes: on the one hand, adolescence is characterized by difficulty down-regulating positive emotion when needed as well as less productive attempts to manage positive emotions that predict exacerbation of clinically relevant symptoms.

In contrast with adolescents, older adults experience more stable positive emotionality

(Carstensen et al., 2011; Gross et al., 1997) and they more effectively maintain positive emotionality during unpleasant situations (Voelkle, Ebner, Lindenberger, & Riediger, 2013). They are also more capable and motivated to regulate emotions (Carstensen, 2006), particularly to maintain positive emotions and down-regulate negative emotions (Riediger, Schmiedek, Wagner, & Lindenberger, 2009). Older adults also use a wider array of effective emotion regulation strategies (Blanchard-Fields, Stein, & Watson, 2004; Watson & Blanchard-Fields, 1998). For instance, older adults often attempt to place themselves in pleasant, predictable environments (Carstensen, Gross, & Fung, 1997). Older adults also show attentional and memory biases toward positive emotional material (Mather & Carstensen, 2005) and adeptly use cognitive reappraisal to down-regulate negative emotions (Opitz, Rauch, Terry, & Urry, 2012; Shiota & Levenson, 2009). Over years of practice, older adults appear to be skilled at up-regulating positive emotion and down-regulating negative emotions using positive emotions.

Individual differences in personality and developmental changes across the lifespan influence positive emotion regulation as well as dysregulation. These individual differences and lifespan considerations may inform future work on multiple forms of positive emotion dysregulation.

The Future of Positive Emotion Dysregulation

Broadly, we have identified the emergence, components, related traits, and developmental trajectory of positive emotion dysregulation known to the field. In this section, we highlight some ways to expand the knowledge of positive emotion dysregulation. A first next step will be to **identify mechanisms of action** within each of the components in the working framework provided. In this chapter we have provided an initial descriptive account of positive emotion dysregulation, pointing to the numerous ways in which failures to regulation positive

emotion can occur. Next, researchers must begin to identify processes that may help explain *why* unsuccessful regulation of positive emotion occurs among so many individuals. In adopting this mechanistic approach, it will be critical to focus on neural models (e.g., Ochsner & Gross, 2005) in the hopes of identifying systems that give rise to successful cognitive control of emotion or influence emotion intensity. Furthermore, much of emotion regulation is thought to occur outside of conscious awareness (Williams, Bargh, Nocera, & Gray, 2009). Thus, assessing physiological systems and nonverbal behaviors linked to emotional regulation may offer a more precise, high-fidelity measurement of emotional regulation than afforded by self-report measures (e.g., Blascovich & Mendes, 2010; Mehl, Robbins, & Deters, 2012).

Second, as current lines of research have yielded many insights about specific emotion regulation strategies, less is known about “**polyregulation,**” or the simultaneous or sequential occurrence of multiple emotion regulation strategies within a single emotion experience. Understanding the co-occurrence of multiple regulation strategies will provide essential information about where in the regulatory process positive emotion dysregulation occurs and what the consequences of over- and under-regulating positive emotions may be. For example, research suggesting that individuals with bipolar disorder use *more* regulatory strategies than healthy controls may indicate that they are using multiple strategies that have conflicting goals (i.e., suppressing to down-regulate positive emotion while savoring to up-regulate positive emotion at the same time) or that they are switching between strategies too quickly to effectively alter their emotion experience. Future research should adopt a polyregulation approach to help unravel the role of concurrent or sequential regulatory strategies (and their interactions) in perpetuating positive emotion dysregulation.

Third, it will be increasingly important to consider the **social context** in which emotion regulation typically occurs. Indeed, positive emotion dysregulation has numerous consequences for social relationships. Thus, future research should investigate positive emotion regulation beyond the individual. Emotion contagion, or the tendency to unconsciously “converge emotionally” with others by mimicking facial expressions, vocalizations, and movements (Hatfield, Cacioppo, & Rapson, 1992), is one opportunity for researchers to examine positive emotion dysregulation in dyadic or group contexts. Specifically, researchers should focus on the extent to which distinct positive emotions (e.g., self-focused positive emotions like pride and joy or other-focused positive emotions such as compassion and gratitude; Shiota, Keltner, & John, 2006) influence emotion contagion and co-regulation.

Fourth, the field of psychological interventions has become increasingly devoted to alleviating emotional difficulties hastening the need for **development of targeted interventions**. Indeed, a host of empirically-supported treatments have been explicitly developed to target difficulties with emotion regulation, including dialectical behavior therapy that includes building emotion regulatory skills (e.g., Linehan, 1993), emotion-focused therapy (e.g., Greenberg, 2002), specific emotion-regulation interventions developed for the management of anxiety and mood disorders (e.g., Fresco, Mennin, Heimberg, & Ritter, 2013), and mindfulness-based interventions focused on acceptance of current emotional states (e.g., Segal, Williams, & Teasdale, 2002). As research begins to focus on the specific emotional processes that are implicated in positive emotion dysregulation, a critical next step will be to create and adapt interventions to target these processes and identify the individuals who will benefit the most. This will include building and expanding upon existing interventions such as small-scale exercises of listing sources of gratitude

(Watkins, Woodward, Stone, & Kolts, 2003) and larger-scale interventions such as loving-kindness meditation (e.g., Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008; Seligman, Rashid, & Parks, 2006; Weytens, Luminet, Verhofstadt, & Mikolajczak, 2014). Although the focus of interventions is typically augmenting positive emotion experiences, positive emotion intervention research should aim to train individuals to both adaptively up-regulate *and* down-regulate their positive emotions based on the individual's goals and context. This approach would emphasize the instrumental nature of emotions and allow individuals to fully capitalize on the benefits that high and low levels of positive emotions afford. Furthermore, by recognizing that positive emotions are not adaptive across all contexts, therapists can avoid potentially harmful practices that teach their clients to overvalue positive emotions (e.g., Mauss, Tamir, Anderson, & Savino, 2012).

Understanding the regulation of positive emotions is a critical next step in the quickly growing field of emotional regulation. We have outlined some of the numerous processes, outcomes, and predictors of positive emotion dysregulation. There are unexplored mechanisms, contexts that may modulate positive emotion regulation, concurrent strategy usage that may influence how positive emotion dysregulation is treated, and interventions that can draw upon existing and future research to effectively target positive emotion dysregulation. By highlighting the importance of positive emotion dysregulation, we hope that we can encourage researchers to continue unveiling additional processes and facets of positive emotion dysregulation that have not yet been uncovered through empirical work. Altogether, this current framework of positive emotion dysregulation emphasizes the ways in which failures to regulate positive emotions can occur and points to future directions that will improve both the field's understanding and ability to target and improve the consequences of positive emotion dysregulation.

References

- Aldao, A., & Nolen-Hoeksema, S. (2012). When are adaptive strategies most predictive of psychopathology? *Journal of Abnormal Psychology, 121*(1), 276–281.
doi:10.1037/a0023598
- Bijttebier, P., Raes, F., Vasey, M. W., & Feldman, G. C. (2012). Responses to positive affect predict mood symptoms in children under conditions of stress: A prospective study. *Journal of Abnormal Child Psychology, 40*(3), 381–389. doi:10.1007/s10802-011-9579-2
- Blanchard-Fields, F., Stein, R., & Watson, T. L. (2004). Age differences in emotion-regulation strategies in handling everyday problems. *The Journals of Gerontology Series B, Psychological Sciences and Social Sciences, 59*(6), 261–269. doi:10.1093/geronb/59.6.p261
- Blascovich, J., & Mendes, W. (2010). Social psychophysiology and embodiment. In *Handbook of Social Psychology*. doi:10.1002/9780470561119.socpsy001006
- Brosschot, J. F., & Thayer, J. F. (2003). Heart rate response is longer after negative emotions than after positive emotions. *International Journal of Psychophysiology, 50*(3), 181–187.
doi:10.1016/s0167-8760(03)00146-6
- Burke, T. A., Stange, J. P., Hamilton, J. L., Cohen, J. N., O’Garro-Moore, J., Daryanani, I., ... Alloy, L. B. (2014). Cognitive and emotion-regulatory mediators of the relationship between behavioral approach system sensitivity and nonsuicidal self-injury frequency. *Suicide and Life-Threatening Behavior*. doi:10.1111/sltb.12145
- Carstensen, L., Gross, J., & Fung, H. (1997). The social context of emotional experience. In *Annual Review of Gerontology and Geriatrics* (pp. 325–352). doi:10.1007/978-3-662-40455-3
- Carstensen, L. L. (2006). The influence of a sense of time on human development. *Science,*

312(5782), 1913–1915. doi:10.1126/science.1127488

Carstensen, L. L., Turan, B., Scheibe, S., Ram, N., Ersner-Hershfield, H., Samanez-Larkin, G. R., ... Nesselroade, J. R. (2011). Emotional experience improves with age: Evidence based on over 10 years of experience sampling. *Psychology and Aging, 26*(1), 21–33. doi:10.1037/a0021285

Cloninger, C. R. (1987). A systematic method for clinical description and classification of personality variants. *Archives of General Psychiatry, 44*(6), 573–588. doi:10.1001/archpsyc.1987.01800180093014

Clore, G., & Colcombe, S. (2003). The parallel worlds of affective concepts and feelings. In J. Musch & K. C. Klauer (Eds.), *The psychology of evaluation: Affective processes in cognition and emotion* (pp. 335–369). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Cohen, S., Alper, C. M., Doyle, W. J., Treanor, J. J., & Turner, R. B. (2006). Positive emotional style predicts resistance to illness after experimental exposure to rhinovirus or influenza A virus. *Psychosomatic Medicine, 68*(6), 809–815. doi:10.1097/01.psy.0000245867.92364.3c

Costa, P. T., & McCrae, R. R. (1980). Influence of extraversion and neuroticism on subjective well-being: happy and unhappy people. *Journal of Personality and Social Psychology, 38*(4), 668–678. doi:10.1037/0022-3514.38.4.668

Dahl, R. E. (2004). Adolescent brain development: A period of vulnerabilities and opportunities. In R. E. Dahl & L. P. Spear (Eds.), *Adolescent brain development: Vulnerabilities and opportunities* (pp. 1–22). New York, NY, US: New York Academy of Sciences. doi:10.1196/annals.1308.001

Danner, D. D., Snowdon, D. A., & Friesen, W. V. (2001). Positive emotions in early life and longevity: findings from the nun study. *Journal of Personality and Social Psychology, 81*(6), 861–868. doi:10.1037/0022-3514.81.6.861

80(5), 804–13. doi:10.1037/0022-3514.80.5.804

Denollet, J., Sys, S. U., Stroobant, N., Rombouts, H., Gillebert, T. C., & Brutsaert, D. L. (1996).

Personality as independent predictor of long-term mortality in patients with coronary heart disease. *Lancet*, 347(8999), 417–421. doi:10.1016/s0140-6736(96)90007-0

Digman, J. M. (1990). Personality structure: Emergence of the five-factor model. *Annual Review of Psychology*. doi:10.1146/annurev.ps.41.020190.002221

Dillon, D. G., Deveney, C. M., & Pizzagalli, D. A. (2011). From basic processes to real-world problems: How research on emotion and emotion regulation can inform understanding of psychopathology, and vice versa. *Emotion Review*, 3(1), 74–82.

doi:10.1177/1754073910380973

Ernst, M., Nelson, E. E., Jazbec, S., McClure, E. B., Monk, C. S., Leibenluft, E., ... Pine, D. S.

(2005). Amygdala and nucleus accumbens in responses to receipt and omission of gains in adults and adolescents. *NeuroImage*, 25(4), 1279–1291.

doi:10.1016/j.neuroimage.2004.12.038

Ernst, M., Pine, D. S., & Hardin, M. (2006). Triadic model of the neurobiology of motivated behavior in adolescence. *Psychological Medicine*, 36(3), 299–312.

doi:10.1017/s0033291705005891

Folkman, S., & Moskowitz, J. T. (2000). Positive affect and the other side of coping. *The American Psychologist*, 55(6), 647–654. doi:10.1037/0003-066x.55.6.647

Forbes, E. E., & Dahl, R. E. (2012). Research Review: Altered reward function in adolescent depression: What, when and how? *Journal of Child Psychology and Psychiatry and Allied*

Disciplines. doi:10.1111/j.1469-7610.2011.02477.x

Ford, B. Q., Mauss, I. B., & Gruber, J. (2015). Valuing happiness is associated with bipolar

disorder. *Emotion*, 15(2), 211–222. doi:10.1037/emo0000048

Ford, B. Q., Shallcross, A. J., Mauss, I. B., Floerke, V. A., & Gruber, J. (2014). Desperately seeking happiness: Valuing happiness is associated with symptoms and diagnosis of depression. *Journal of Social and Clinical Psychology*, 33(10), 890–905.

doi:10.1521/jscp.2014.33.10.890

Forgas, J. (1998). On feeling good and getting your way: Mood effects on negotiator cognition and bargaining strategies. *Journal of Personality and Social Psychology*, 74(3), 565–577.

doi:10.1037/0022-3514.74.3.565

Fredrickson, B. (1998). What good are positive emotions? *Review of General Psychology*, 2(3), 300–319. doi:10.1037/1089-2680.2.3.300

Fredrickson, B. L., Cohn, M. A., Coffey, K. A., Pek, J., & Finkel, S. M. (2008). Open hearts build lives: Positive emotions, induced through loving-kindness meditation, build consequential personal resources. *Journal of Personality and Social Psychology*, 95(5), 1045–1062. doi:10.1037/a0013262

Fredrickson, B. L., & Joiner, T. (2002). Positive emotions trigger upward spirals toward emotional well-being. *Psychological Science : A Journal of the American Psychological Society / APS*, 13, 172–175. doi:10.1111/1467-9280.00431

Fredrickson, B. L., Mancuso, R. a, Branigan, C., & Tugade, M. M. (2000). The undoing effect of positive emotions. *Motivation and Emotion*, 24(4), 237–258.

doi:10.1023/A:1010796329158

Fredrickson, B. L., Tugade, M. M., Waugh, C. E., & Larkin, G. R. (2003). What good are positive emotions in crises? A prospective study of resilience and emotions following the terrorist attacks on the United States on September 11th, 2001. *Journal of Personality and*

Social Psychology, 84(2), 365–376. doi:10.1037/0022-3514.84.2.365

Fresco, D. M., Mennin, D. S., Heimberg, R. G., & Ritter, M. (2013). Emotion regulation therapy for generalized anxiety disorder. *Cognitive and Behavioral Practice*, 20(3), 282–300.

doi:10.1016/j.cbpra.2013.02.001

Fussner, L., Luebbe, A., & Bell, D. (2014). Dynamics of positive emotion regulation:

Associations with youth depressive symptoms. *Journal of Abnormal Child Psychology*, 43(3), 475–488. doi:10.1007/s10802-014-9916-3

Gardner, M., & Steinberg, L. (2005). Peer influence on risk taking, risk preference, and risky decision making in adolescence and adulthood: An experimental study. *Developmental Psychology*, 41(4), 625–635. doi:10.1037/0012-1649.41.4.625

Giovanelli, A., Hoerger, M., Johnson, S. L., & Gruber, J. (2013). Impulsive responses to positive mood and reward are related to mania risk. *Cognition & Emotion*, 27(6), 1091–104.

doi:10.1080/02699931.2013.772048

Giuliani, N. R., McRae, K., & Gross, J. J. (2008). The up-and down-regulation of amusement: Experiential, behavioral, and autonomic consequences. *Emotion*, 8(5), 714–719.

doi:10.1037/a0013236

Goldberg, L. R. (1990). An alternative “description of personality”: The big-five factor structure.

Journal of Personality and Social Psychology, 59(6), 1216–1229. doi:10.1037/0022-3514.59.6.1216

Gratz, K. L., Rosenthal, M. Z., Tull, M. T., Lejuez, C. W., & Gunderson, J. G. (2006). An experimental investigation of emotion dysregulation in borderline personality disorder.

Journal of Abnormal Psychology, 115(4), 850–855. doi:10.1037/1949-2715.S.1.18

Greenberg, L. (2002). *Emotion-focused therapy: Coaching clients to work through their feelings*.

- Washington, DC: American Psychological Association. doi:10.1037/10447-000
- Gross, J. (2015). Emotion regulation: Current status and future prospects. *Psychological Inquiry*, 26(1), 1–26. doi:10.1080/1047840x.2014.940781
- Gross, J. J. (1998). The emerging field of emotion regulation: An integrative review. *Review of General Psychology*, 2(5), 271–299.
- Gross, J. J., Carstensen, L. L., Pasupathi, M., Tsai, J., Skorpen, C. G., & Hsu, A. Y. (1997). Emotion and aging: experience, expression, and control. *Psychology and Aging*, 12(4), 590–599. doi:10.1037/0882-7974.12.4.590
- Gross, J. J., & Jazaieri, H. (2014). Emotion, emotion regulation, and psychopathology: An affective science perspective. *Clinical Psychological Science*, 2(4), 387–401. doi:10.1177/2167702614536164
- 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(2), 348–362. doi:10.1037/0022-3514.85.2.348
- Gross, J. J., & Thompson, R. A. (2007). Emotion regulation: Conceptual foundations. In J. J. Gross (Ed.), *Handbook of Emotion Regulation* (3rd ed., pp. 3–24). New York, NY, US: The Guilford Press. doi:10.1080/00140130600971135
- Gruber, J. (2011). When feeling good can be bad: Positive emotion persistence (PEP) in bipolar disorder. *Current Directions in Psychological Science*, 20(4), 217–221. doi:10.1177/0963721411414632
- Gruber, J., Culver, J. L., Johnson, S. L., Nam, J. Y., Keller, K. L., & Ketter, T. A. (2009). Do positive emotions predict symptomatic change in bipolar disorder? *Bipolar Disorders*, 11(3), 330–336. doi:10.1111/j.1399-5618.2009.00679.x

- Gruber, J., Dutra, S. J., Hay, A. C., & Devlin, H. C. (2014). Positive emotion and reward dysregulation across disorders. In M. N. Shiota, M. M. Tugade, & L. Kirby (Eds.), *Handbook of positive psychology*. New York, NY: Guilford Press.
- Gruber, J., Johnson, S. L., Oveis, C., & Keltner, D. (2008). Risk for mania and positive emotional responding: Too much of a good thing? *Emotion*, 8(1), 23–33. doi:10.1037/1528-3542.8.1.23
- Gruber, J., Kogan, A., Quoidbach, J., & Mauss, I. (2013). Happiness is best kept stable: Positive emotion variability is associated with poorer psychological health. *Emotion*, 13(1), 1–6. doi:10.1037/a0030262
- Gruber, J., Mauss, I. B., & Tamir, M. (2011). A dark side of happiness? How, when, and why happiness is not always good. *Perspectives on Psychological Science*. doi:10.1177/1745691611406927
- Gruber, J., & Purcell, J. (2015). The tides are changing: Unpacking the nature of positive emotion disturbance. In R. A. Scott & S. M. Kosslyn (Eds.), *Handbook of Emerging Trends in the Social and Behavioral Sciences*. Hoboken, NJ: John Wiley and Sons.
- Hatfield, E., Cacioppo, J. T., & Rapson, R. L. (1992). Emotional contagion. In *Review of Personality and Social Psychology, Vol. 14, Emotion and social behavior* (pp. 151–177). Newbury Park, CA: Sage.
- Hechtman, L., Raila, H., Chiao, J., & Gruber, J. (2013). Positive emotion regulation and psychopathology: A transdiagnostic cultural neuroscience approach. *Journal of Experimental Psychopathology*, 4(5), 502–528. doi:10.5127/jep.030412
- Heiy, J. E., & Cheavens, J. S. (2014). Emotion back to basics : A naturalistic assessment of the experience and regulation of emotion. *Emotion*, 14(5), 878–891. doi:10.1037/a0037231

Heller, A. S., Johnstone, T., Shackman, A. J., Light, S. N., Peterson, M. J., Kolden, G. G., ...

Davidson, R. J. (2009). Reduced capacity to sustain positive emotion in major depression reflects diminished maintenance of fronto-striatal brain activation. *Proceedings of the National Academy of Sciences of the United States of America*, *106*(52), 22445–22450. doi:10.1073/pnas.0910651106

Isen, A. (1970). Success, failure, attention, and reaction to others: The warm glow of success.

Journal of Personality and Social Psychology, *15*(4), 294–301. doi:10.1037/h0029610

Isen, A., Clark, M., & Schwartz, M. (1976). Duration of the effect of good mood on helping:

Footprints on the sands of time. *Journal of Personality and Social Psychology*, *34*(3), 385–393. doi:10.1037/0022-3514.34.3.385

Isen, A. M. (2008). Some ways in which positive affect influences decision making and problem

solving. In M. Lewis, J. M. Haviland-Jones, & L. Feldman Barrett (Eds.), *Handbook of Emotions* (pp. 548–573). The Guilford Press. doi:10.1017/cbo9780511609978.013

Johnson, S. L. (2005). Life events in bipolar disorder: Towards more specific models. *Clinical*

Psychology Review, *25*(8), 1008–1027. doi:10.1016/j.cpr.2005.06.004

Kokkonen, M., & Pulkkinen, L. (2001). Extraversion and Neuroticism as antecedents of emotion

regulation and dysregulation in adulthood. *European Journal of Personality*, *15*(6), 407–424. doi:10.1002/per.425

Larsen, R. J., & Ketelaar, T. (1989). Extraversion, neuroticism and susceptibility to positive and

negative mood induction procedures. *Personality and Individual Differences*, *10*(12), 1221–1228. doi:10.1016/0191-8869(89)90233-x

Larsen, R. J., & Ketelaar, T. (1991). Personality and susceptibility to positive and negative

emotional states. *Journal of Personality and Social Psychology*, *61*(1), 132–140.

doi:10.1037//0022-3514.61.1.132

Larson, R., & Lampman-Petratis, C. (1989). Daily emotional states as reported by children and adolescents. *Child Development, 60*(5), 1250–1260. doi:10.2307/1130798

Larson, R., Moneta, G., Richards, M., & Wilson, S. (2002). Continuity, stability, and change in daily emotional experience across adolescence. *Child Development, 73*(4), 1151–1165. doi:10.1111/1467-8624.00464

Larson, R., & Richards, M. (1994). Family emotions: Do young adolescents and their parents experience the same states? *Journal of Research on Adolescence, 4*(4), 567–83. doi:10.1207/s15327795jra0404_8

Lim, S. I., Woo, J. C., Bahn, S., & Nam, C. S. (2012). The effects of individuals' mood state and personality trait on the cognitive processing of emotional stimuli. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting, 56*(1), 1059–1063. doi:10.1177/1071181312561231

Linehan, M. M. (1993). Skills training manual for treating borderline personality disorder. Diagnosis and treatment of mental disorders. *Journal of Psychosomatic Research, 43*(3), 323.

Luna, B., Paulsen, D. J., Padmanabhan, A., & Geier, C. (2013). The teenage brain: Cognitive control and motivation. *Current Directions in Psychological Science, 22*(2), 94–100. doi:10.1177/0963721413478416

Martin, L. R., Friedman, H. S., Tucker, J. S., Tomlinson-Keasey, C., Criqui, M. H., & Schwartz, J. E. (2002). A life course perspective on childhood cheerfulness and its relation to mortality risk. *Personality and Social Psychology Bulletin, 28*(9), 1155–1165. doi:10.1177/01461672022812001

- Mather, M., & Carstensen, L. L. (2005). Aging and motivated cognition: The positivity effect in attention and memory. *Trends in Cognitive Sciences*. doi:10.1016/j.tics.2005.08.005
- Mauss, I. B., Bunge, S. a, & Gross, J. J. (2007). Automatic Emotion Regulation. *Social and Personality Psychology Compass*, *1*(1), 146–167. doi:10.1111/j.1751-9004.2007.00005.x
- Mauss, I. B., Savino, N. S., Anderson, C. L., Weisbuch, M., Tamir, M., & Ludenslager, M. L. (2012). The pursuit of happiness can be lonely. *Emotion*, *12*(5), 908–912. doi:10.1037/a0025299
- Mauss, I. B., Tamir, M., Anderson, C. L., & Savino, N. S. (2011). Can seeking happiness make people happy? Paradoxical effects of valuing happiness. *Emotion*, *11*(4), 807–815. doi:10.1037/a0022010
- McRae, K., Ochsner, K. N., Mauss, I. B., Gabrieli, J. J. D., & Gross, J. J. (2008). Gender differences in emotion regulation: An fMRI study of cognitive reappraisal. *Group Processes & Intergroup Relations*. doi:10.1177/1368430207088035
- Mehl, M. R., Robbins, M. L., & Deters, F. G. (2012). Naturalistic observation of health-relevant social processes: The electronically activated recorder methodology in psychosomatics. *Psychosomatic Medicine*. doi:10.1097/psy.0b013e3182545470
- Mennin, D. S., Heimberg, R. G., Turk, C. L., & Fresco, D. M. (2005). Preliminary evidence for an emotion dysregulation model of generalized anxiety disorder. *Behaviour Research and Therapy*, *43*(10), 1281–1310. doi:10.1016/j.brat.2004.08.008
- Moos, R. H., & Cronkite, R. C. (1999). Symptom-based predictors of a 10-year chronic course of treated depression. *The Journal of Nervous and Mental Disease*, *187*(6), 360–8. doi:10.1097/00005053-199906000-00005
- Ochsner, K. N., & Gross, J. J. (2005). The cognitive control of emotion. *Trends in Cognitive*

Sciences, 9(5), 242–249. doi:10.1016/j.tics.2005.03.010

Opitz, P. C., Rauch, L. C., Terry, D. P., & Urry, H. L. (2012). Prefrontal mediation of age differences in cognitive reappraisal. *Neurobiology of Aging*, 33(4), 645–655.

doi:10.1016/j.neurobiolaging.2010.06.004

Parrott, A. C. (1993). Cigarette smoking: Effects upon self-rated stress and arousal over the day.

Addictive Behaviors, 18(4), 389–395. doi:10.1016/0306-4603(93)90055-e

Pressman, S. D., & Cohen, S. (2005). Does positive affect influence health? *Psychological*

Bulletin, 131(6), 925–971. doi:10.1037/0033-2909.131.6.925

Quevedo, K. M., Benning, S. D., Gunnar, M. R., & Dahl, R. E. (2009). The onset of puberty:

Effects on the psychophysiology of defensive and appetitive motivation. *Development and*

Psychopathology, 21(1), 27–45. doi:10.1017/s0954579409000030

Rand, D. G., Kraft-todd, G., & Gruber, J. (2015). The collective benefits of feeling good and

letting go: Positive emotion and (dis)inhibition interact to predict cooperative behavior.

PLoS ONE, 10(1), 1–12. doi:10.1371/journal.pone.0117426

Riediger, M., Schmiedek, F., Wagner, G. G., & Lindenberger, U. (2009). Seeking pleasure and

seeking pain: Differences in prohedonic and contra-hedonic motivation from adolescence to

old age. *Psychological Science*, 20(12), 1529–1535. doi:10.1111/j.1467-9280.2009.02473.x

Riskind, J., Kleiman, E., & Schafer, K. (2013). “Undoing” effects of positive affect: Does it

buffer the effects of negative affect in predicting changes in depression? *Journal of Social*

and Clinical Psychology, 32(4), 363–380. doi:10.1521/jscp.2013.32.4.363

Rottenberg, J., & Gross, J. (2003). When emotion goes wrong: Realizing the promise of affective

science. *Clinical Psychology: Science and Practice*, 10(2), 227–232.

doi:10.1093/clipsy.bpg012

- Rusting, C. L., & Larsen, R. J. (1997). Extraversion, neuroticism, and susceptibility to positive and negative affect: A test of two theoretical models. *Personality and Individual Differences*. doi:10.1016/s0191-8869(96)00246-2
- Samson, A. C., & Gross, J. J. (2014). The dark and light sides of humor: An emotion-regulation perspective. In J. Gruber & J. Moskowitz (Eds.), *The Dark and Light Sides of Positive Emotion* (pp. 169–182). New York: Oxford University Press.
doi:10.1093/acprof:oso/9780199926725.003.0010
- Segal, Z. V., Williams, J. M. G., & Teasdale, J. D. (2002). *Mindfulness-based cognitive therapy for depression: A new approach to preventing relapse*. New York, NY, US: Guilford Press.
- Seligman, M. E. P., Rashid, T., & Parks, A. C. (2006). Positive psychotherapy. *The American Psychologist*, 61(8), 774–788. doi:10.1037/0003-066x.61.8.774
- Shiota, M. N., Keltner, D., & John, O. P. (2006). Positive emotion dispositions differentially associated with Big Five personality and attachment style. *The Journal of Positive Psychology*, 1(2), 61–71. doi:10.1080/17439760500510833
- Shiota, M. N., & Levenson, R. W. (2009). Effects of aging on experimentally instructed detached reappraisal, positive reappraisal, and emotional behavior suppression. *Psychology and Aging*, 24(4), 890–900. doi:10.1037/a0017896
- Silvers, J. A., McRae, K., Gabrieli, J. D. E., Gross, J. J., Remy, K. A., & Ochsner, K. N. (2012). Age-related differences in emotional reactivity, regulation, and rejection sensitivity in adolescence. *Emotion*, 12(6), 1235–47. doi:10.1037/a0028297
- Spijker, J., Bijl, R. V., de Graaf, R., & Nolen, W. A. (2001). Determinants of poor 1-year outcome of DSM-III-R major depression in the general population: Results of the Netherlands Mental Health Survey and Incidence Study (NEMESIS). *Acta Psychiatrica*

- Scandinavica*, 103(2), 122–30. doi:10.1034/j.1600-0447.2001.103002122.x
- Steinberg, L. (2008). A social neuroscience perspective on adolescent risk-taking. *Developmental Review*, 28(1), 78–106. doi:10.1016/j.dr.2007.08.002
- Steinberg, L. (2010). A dual systems model of adolescent risk-taking. *Developmental Psychobiology*, 52(3), 216–224. doi:10.1002/dev.20445
- Tamir, M. (2009). What do people want to feel and why? *Current Directions in Psychological Science*, 18(2), 101–106. doi:10.1111/j.1467-8721.2009.01617.x
- Tamir, M., John, O. P., Srivastava, S., & Gross, J. J. (2007). Implicit theories of emotion: affective and social outcomes across a major life transition. *Journal of Personality and Social Psychology*, 92(4), 731–744.
- Tamir, M., Mitchell, C., & Gross, J. (2008). Hedonic and instrumental motives in anger regulation. *Psychological Science*, 19(4), 324–328. doi:10.1111/j.1467-9280.2008.02088.x
- Tellegen, A. (1985). Structures of mood and personality and their relevance to assessing anxiety, with an emphasis on self-report. In (1985). Tuma, A. Hussain (Ed); Maser, Jack D. (Ed) (Ed.), *Anxiety and the Anxiety Disorders* (pp. 681–706). Lawrence Erlbaum Associates, Inc. doi:1985-97708-037
- Troy, A., Shallcross, A., & Mauss, I. (2013). A person-by-situation approach to emotion regulation cognitive reappraisal can either help or hurt, depending on the context. *Psychological Science*, 24(12), 2505–2514. doi:10.1177/0956797613496434
- 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(2), 320–333. doi:10.1037/0022-3514.86.2.320
- Voelkle, M. C., Ebner, N. C., Lindenberger, U., & Riediger, M. (2013). Here we go again:

- Anticipatory and reactive mood responses to recurring unpleasant situations throughout adulthood. *Emotion*, *13*(3), 424–33. doi:10.1037/a0031351
- Watkins, P. C., Woodward, K., Stone, T., & Kolts, R. L. (2003). Gratitude and happiness: Development of a measure of gratitude, and relationships with subjective well-being. *Social Behavior and Personality: An International Journal*. doi:10.2224/sbp.2003.31.5.431
- Watson, T. L., & Blanchard-Fields, F. (1998). Thinking with your head and your heart: Age differences in everyday problem-solving strategy preferences. *Aging, Neuropsychology, and Cognition*, *5*(3), 225–240. doi:10.1076/anec.5.3.225.613
- Weytens, F., Luminet, O., Verhofstadt, L. L., & Mikolajczak, M. (2014). An integrative theory-driven positive emotion regulation intervention. *PLoS ONE*, *9*(4). doi:10.1371/journal.pone.0095677
- Williams, L. A., & DeSteno, D. (2008). Pride and perseverance: The motivational role of pride. *Journal of Personality and Social Psychology*, *94*(6), 1007–1017. doi:10.1037/0022-3514.94.6.1007
- Williams, L. E., Bargh, J. A., Nocera, C. C., & Gray, J. R. (2009). The unconscious regulation of emotion: nonconscious reappraisal goals modulate emotional reactivity. *Emotion*, *9*(6), 847–854. doi:10.1037/a0017745
- Yook, K., Kim, K., Suh, S., & Lee, K. (2010). Intolerance of uncertainty, worry, and rumination in major depressive disorder and generalized anxiety disorder. *Journal of Anxiety Disorders*, *24*(6), 623–628. doi:10.1016/j.janxdis.2010.04.003

Table 1. *Working Framework for Positive Emotion Dysregulation*

	Up-Regulating Positive Emotions	Down-Regulating Positive Emotions	Down-Regulating Negative Emotions via Positive Emotions	Down-Regulating Positive Emotions via Negative Emotions
Size <i>Inappropriate magnitude</i>	Increased positive emotion intensity	Decreased positive emotion intensity	Increased positive emotion intensity	Decreased positive emotion intensity
Situation <i>Incorrect context</i>	Positive emotions increased in incorrect context (e.g., threat)	Positive emotions decreased in incorrect context (e.g., reward)	Negative emotions decreased, and positive emotions increased, in incorrect context (e.g., threat)	Positive emotions decreased, and negative emotions increased, in incorrect context (e.g., reward)
Seeking <i>Excessive pursuit</i>	Increased pursuit of positive emotions	Avoidance of positive emotions	Avoidance of negative emotions via increasing positive emotions	Avoidance of positive emotions via increasing negative emotions
Stability <i>Heightened variability (higher peaks and lower valleys)</i>	Increased height of positive emotion “peaks”	Decreased height of positive emotion “peaks”, increased depth of positive emotion “valleys”	Increased height of positive emotion “peaks”, decreased height of negative emotion “peaks”	Increased height of negative emotion “peaks”, decreased height positive emotion “peaks”, increased depth of positive emotion “valleys”
Self-regulation <i>Trouble regulating</i>	Underregulate positive emotion intensity Misregulate positive emotion to context	Overregulate positive emotion intensity Misregulate positive emotion to context	Underregulate positive emotion intensity Overregulate negative emotion intensity Misregulate positive emotion to context	Underregulate negative emotion intensity Overregulate positive emotion intensity Misregulate positive emotion to context