CHAPTER 4

On the Need for Conceptual and Definitional Clarity in Emotion Regulation Research on Psychopathology

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> Every perception must lead to some nervous result. If this be the normal emotional expression, it soon expends itself, and in the natural course of things a calm succeeds. But if the normal issue be blocked from any cause, the currents may under certain circumstances invade other tracts, and there work different and worse effects. Thus vengeful brooding may replace a burst of indignation; a dry heat may consume the frame of one who fain would weep, or he may, as Dante says, turn to stone within; and then tears or a storming-fit may bring a grateful relief.
>
> —WILLIAM JAMES (1884, pp. 198–199)

Emotion regulation may be central to understanding the cause and pathogenesis of psychopathology. Although this study has burgeoned in recent years, the field continues to be plagued by definitional ambiguity surrounding emotion regulation. In this chapter, we argue that progress in the field will advance more rapidly if greater consensus on the definition of emotion regulation is achieved. Our aim is to elucidate this challenge.

We begin by unpacking the myriad definitions of emotion and emotion regulation and how they relate to psychopathology. We then discuss the various ways in which emotion regulation has been studied within psychopathology. Finally, we suggest that a shared definition of emotion regulation across basic and applied research domains holds promise for advancing our understanding of how emotion regulation may be disrupted in psychopathology.

Defining Emotion

We eat, work, sleep, travel. Arguably, it is emotions that provide color, depth, and nuance to these life experiences. As the pioneer William James wrote, emotions live in the "aesthetic sphere of the mind, its longings, its pleasures and pains" (James, 1884, p. 188). But what exactly are these emotions? Throughout history, myriad definitions of emotions have been considered. Yet scientists still may not fully agree about what constitutes an emotion. As Joseph LeDoux once quipped, "One of the most significant things ever said about emotion may be that everyone knows what it is until they are asked to define it" (LeDoux, 1996, p. 23).

Various researchers have differentiated among the terms *emotion*, *affect*, and *mood*. Emotions, such as anger and sadness, typically are of rapid onset and short duration, lasting a matter of seconds (Ekman, 1992), and have a specific internal or external object of focus (Frijda, 1993). In contrast, moods may last hours or days (Ekman, 1992), may be objectless (Frijda, 1993), and may be composed of signals of one or many emotions (Ekman, 1999). Affect may be the superordinate category for all valenced states (Rosenberg, 1998; Scherer, 1984).

Emotions serve important functions, both intrapersonally and interpersonally (Keltner & Gross, 1999). Emotions may serve the adaptive function of translating information, even outside of awareness, into an internal experience to help identify and attain goals (e.g., Clore, 1994) and negotiate the environment (e.g., Frijda, 1994). The expressive characteristics of emotion may enable emotional communication and coordinate social interactions (e.g., Keltner & Kring, 1998; Levenson, 1994). Furthermore, emotions may serve to organize response systems (Levenson, 1994) that may (or may not) cohere across domains of subjective experience, behavior, and peripheral physiology (Barrett, 2006; Mauss, Levenson, McCarter, Wilhelm, & Gross, 2005).

Defining Emotion Regulation

Emotion regulation has been variously defined by theorists and researchers, as presented in Table 4.1. Arguably the most influential definition was by Gross (1998), who defined emotion regulation as the "processes by which individuals influence which emotions they have, when they have them, and how they experience and express these emotions" (p. 275). These processes may be automatic or controlled and conscious or unconscious. Moreover, Gross further unpacked these processes into five points in the emotion-generative process at which individuals can regulate their emotions: situation selection, situation modification, attentional deployment, cognitive change, and response modulation. The first four are referred to as antecedent-focused emotion regulation strategies, while the latter is

TABLE 4.1. Definitions of Emotion Regulation

Author	Definition
Dodge (1989, p. 340)	The process by which activation in one response domain serves to alter, titrate, or modulate activation in another response domain.
Cicchetti, Ganiban, and Barnett (1991, p. 15)	The intra- and extraorganismic factors by which emotional arousal is redirected, controlled, modulated, and modified to enable an individual to function adaptively in emotionally arousing situations.
Thompson (1994)	Emotion regulation consists of the extrinsic and intrinsic processes responsible for monitoring, evaluating, and modifying emotion reactions, especially their intensive and temporal features, to accomplish one's goals.
Gross (1998)	The processes by which individuals influence which emotions they have, when they have them, and how they experience and express these emotions.
Eisenberg and Morris (2002)	Emotion regulation is defined as the process of initiating, maintaining, modulating, or changing the occurrence, intensity, or duration of internal feeling states and emotion-related motivations and physiological processes, often in the service of accomplishing one's goals.
Cole, Martin, and Dennis (2004)	Emotion regulation refers to changes associated with activated emotions. These include changes in the emotion itself or in other psychological processes (e.g., memory, social interaction). The term *emotion regulation* can denote two types of regulatory phenomena: emotion as regulating (changes that appear to result from the activated emotion) and emotion as regulated (changes in the activated emotion).
Gratz and Roemer (2004)	Emotion regulation involves (a) awareness and understanding of emotions, (b) acceptance of emotions, (c) ability to control impulsive behaviors and behave in accordance with desired goals when experiencing negative emotions, and (d) ability to use situationally appropriate emotion regulation strategies flexibly to modulate emotional responses as desired in order to meet individual goals and situational demands.
Campos, Frankel, and Camras (2004)	Emotion regulation is the modification of any process in the system that generates emotion or its manifestation in behavior. The processes that modify emotion come from the same set of processes as the ones that are involved in emotion in the first place. Regulation takes place at all levels of the emotion process, at all times that the emotion is activated, and is evident even before an emotion is manifested.

considered a response-focused strategy. For example, averting one's gaze from a grotesque scene in a movie is a strategy to regulate feelings of disgust before they occur (i.e., attentional deployment); in contrast, suppressing facial expressions of disgust at dinner so as not to offend the chef is a strategy to regulate ongoing emotion (i.e., suppression). Emotion regulation may involve changes in duration or intensity of the various components of emotion, including experience, behavior, and physiology. Notably, Gross's definition locates emotion regulation "in the self" (i.e., within the individual).

In contrast, other definitions have placed greater emphasis on the extrinsic factors, particularly other people, which also serve emotion regulatory functions (e.g., Thompson, 1994). This is especially characteristic of researchers in developmental psychology who point out that external influences on emotion regulation are particularly salient to child development, wherein caregivers teach their children strategies for self-control of emotion (e.g., Fox & Calkins, 2003). For example, in infancy parents may directly manage their babies' emotional reactions: Baby monitors alert parents to distress, which parents may interpret as hunger and thus try to alleviate by feeding. As children mature, parents may also begin to utilize more indirect interventions to help children regulate their emotions, such as modeling effective strategies for managing anger. Others may exert emotion regulatory influence in adulthood, too. For example, a woman sitting at home feeling blue after breaking up with a romantic partner may have friends who help soothe those sad feelings by taking the woman out for an uplifting ladies' night on the town.

Gross and Thompson (2007) have elaborated a conceptualization of emotion regulation that reflects a combination of their ideas: Emotion regulation refers to the automatic or controlled, conscious or unconscious process of individuals influencing emotions in self, others, or both. Importantly, this definition integrates Thompson's (1994) emphasis on extrinsic influences on emotion regulation with Gross's (1998) process model that focused on emotion regulation in self.

It is important to situate the Gross–Thompson conceptualization within the broader panoply of emotion regulation definitions and models. Some of these definitions explicitly reference emotion regulation, whereas others define processes that are arguably close intellectual cousins to emotion regulation. In one of the early conceptualizations of emotion regulation, Dodge (1989) described emotion regulation as "the process by which activation in one response domain serves to alter, titrate, or modulate activation in another response domain" (p. 340). Similar to the Gross model of regulation, this conceptualization includes behavioral, experiential, and physiological response domains. Dodge argued that it is in understanding how a person coordinates these responses that we begin to understand emotion regulation. For example, a woman with obsessive–compulsive dis-

order begins to feel her heart racing at the thought of having left the oven on; then, by checking the oven repeatedly, she reduces her physiological reaction to this anxiety. It is in this step between feeling initial anxiety and reducing that anxiety via behavioral action that emotion regulation occurs. Additionally, similar to definitions proposed by Thompson (1994) and Gross and Thompson (2007), this conceptualization allows for internal and external forms of regulation.

Cole, Martin, and Dennis (2004) also explicitly acknowledge both internal and external influences on emotion regulation. In their broad definition, emotion regulation is defined as "changes associated with activated emotions." This model describes two types of regulatory processes. The first, *emotion as regulating*, refers to changes that are a result of the activated emotion. For example, a friend's sad expression makes us tell a joke in hopes of cheering her up. Ensuring that the emotion and change are linked is crucial to the definition of emotion regulation. The second type of regulatory process is *emotion as regulated*. Similar to Thompson (1994) and Gross and Thompson's (2007) conceptualizations, emotion as regulated refers to changes in the valence, intensity, or time course of emotion within the self or between people. Both processes require that the regulation be independent of the initial emotion and that an emotion state is activated (Cole et al., 2004).

Eisenberg and Spinrad (2004) raised concerns that Cole's definition was too broad and difficult to measure. They proposed a definition of emotion-related self-regulation as the process of "initiating, avoiding, inhibiting, maintaining, or modulating the occurrence, form, intensity, or duration of internal feeling states, emotion-related physiological, attentional processes, motivational states, and/or the behavioral concomitants of emotion in the service of accomplishing affect-related biological or social adaptation or achieving individual goals" (p. 338). Similar to the Gross model, Eisenberg and Spinrad's working definition acknowledges antecedent- and response-focused attempts to regulate emotion, distinguishes between regulation of self and others, and includes the modification of experience, behavior, and physiology. A point of distinction in Eisenberg's model is the notion that emotion regulation is used for biological or social adaptation and to achieve goals. They note that, although goals may not always be achieved, the motivation is a necessary component of the regulatory process (Eisenberg, Hofer, & Vaughan, 2007).

Some theorists and researchers have developed models of constructs that are conceptually similar to emotion regulation. For example, experiential avoidance has been defined by Hayes, Wilson, Gifford, Follette, and Strosahl (1996) as a time when a person "unwilling to remain in contact with particular private experiences (e.g., bodily sensations, emotions, thoughts, and memories) takes steps to alter the form or frequency of these events and the contexts that occasion them" (p. 1154). Experiential avoidance can be further parsed into cognitive avoidance and emotional avoidance (Hayes et al., 1996; see Salters-Pedneault, Steenkamp, & Litz, Chapter 6, this volume). Similar to Gross's model of emotion regulation, experiential avoidance involves suppressing or avoiding emotional experiences as the means by which to regulate emotion. However, whereas experiential avoidance focuses on the modulation of distressing emotions, Gross provides a model for the regulation of all emotions. Furthermore, experiential avoidance refers primarily to the experience component of emotion and not to other components (e.g., expression, physiology).

In contrast with experiential avoidance, mindfulness refers to the use of self-regulated attention to sit with unpleasant emotions in order to ultimately view them as less distressing (e.g., Bishop et al., 2004). This ability to attend to distressing emotions, without utilizing regulatory strategies to avoid distress, is thought to lead to a reduction in cognitive and behavioral avoidance coping mechanisms (see Valdivia-Salas, Sheppard, & Forsyth, Chapter 13, this volume). Although the role of attention is important in both Gross's model of emotion regulation and mindfulness, the two constructs view attention as a means to different ends. In mindfulness, attentional deployment is used to focus on self, emotion, and thought without distraction. In Gross's model of emotion regulation, attentional deployment can involve either distraction from an emotionally laden event or concentration toward the emotional event.

Although these varied conceptualizations of emotion regulation have all contributed to our understanding of emotion regulation in psychopathology, the field has nonetheless failed to progress in developing a clearer understanding of which aspects of emotion regulation may be central to the symptoms and even causes of different psychological disorders. One way to speed progress toward further elucidating where in the emotion generative process regulatory strategies may go awry in psychopathology is to adopt a theory and definition that identify the key processes that together form a comprehensive account of emotion regulation.

The Gross and Thompson (2007) conceptualization has two particular attributes that are helpful in this regard. First, this model systematically identifies distinct processes (situation selection, situation modification, attentional deployment, cognitive change, and response modulation) in the emotion regulation framework. This is vital to the study of psychopathology, because various disorders may be associated with the nonfunctioning of distinct emotion regulation processes. For example, emotional suppression is a form of response modulation that characterizes posttraumatic stress disorder (PTSD) (Roemer, Litz, Orsillo, & Wagner, 2001), whereas attentional deployment may be disrupted in individuals with generalized anxiety disorder (GAD) (MacLeod, Mathews, & Tata, 1986). Moreover, the identification of these distinct processes allows researchers the opportunity to vet each process completely and distinctly instead of trying to tackle a broader, perhaps less structured conceptualization of emotion regulation.

Second, this model allows for the consideration of deficits in self (e.g., difficulty controlling worry in GAD) as well as deficits related to influences by others. For example, people with a history of depression who perceive more criticism from their spouses are more likely to relapse (Hooley & Teasdale, 1989); perceived criticism may drive these individuals to amplify and deploy further attention to negative self-views, thus increasing risk of relapse. This suggests that models of emotion regulation focusing solely on the self as regulator may be missing an important aspect of emotion regulation in psychopathology. Although many disorders are indeed related to difficulties in emotion regulation, these may be complex and varied in nature. Therefore, as the prior examples illuminate, the Gross–Thompson framework may be particularly useful to identify distinct regulatory process problems in psychopathology.

Emotion Regulation and Psychopathology

In 1884, William James wrote the early description, with which we began this chapter, of the ill effect of difficulties in emotion regulation. This ill effect, or "different and worse" emotional impact, to which James refers may manifest as emotional excess or deficit and may play a key role in psychopathology. Various forms of psychological disorders have been described as disorders of emotional excess. For example, GAD involves extreme worry (e.g., Zinbarg & Barlow, 1996). Other disorders have been characterized by emotional deficits. For example, frontotemporal lobar dementia involves emotional blunting (e.g., Werner et al., 2007). These excesses and deficits may (or may not) reflect problems in the regulation of emotion. As we noted earlier, we believe that the Gross–Thompson (2007) model of emotion regulation is perhaps best suited to provide the foundation for studying emotion regulation across psychopathologies.

Indeed, emotional disturbances are prevalent in nearly all forms of psychopathology (e.g., Kring & Bachorowski, 1999). Thus, it follows that emotion regulation may be central to the cause and pathogenesis of these disorders. The literature has frequently discussed emotion regulation and psychopathology utilizing the term *emotion dysregulation.* Indeed, emotion dysregulation is implicated in more than half of the *Diagnostic and Statistical Manual of Mental Disorders* (fourth edition; American Psychiatric Association, 1994) Axis I disorders and in all of the Axis II disorders (Gross, 1998). What remains unclear is what exactly emotion dysregulation refers to and how it differs from emotion regulation.

Cicchetti, Ackerman, and Izard (1995) suggest that *emotion dysregulation* is the maladaptive implementation of emotion regulatory strategies, where the ability to implement these strategies is otherwise intact. As a separate construct, Cicchetti and colleagues propose that *problems in emotion regulation* refer to the absence of, or deficits in, regulatory strategies, where

the ability to implement strategies is impaired. In our view, this perspective unnecessarily bifurcates emotion regulation in psychopathology into two constructs: emotion dysregulation and problems in emotion regulation.

By contrast, the Gross–Thompson conceptualization implicitly adopts a developmental perspective whereby it is first necessary to ascertain whether people developed emotion regulation skills and then whether they were able to use these skills in the appropriate contexts. Such inquiry requires knowledge of basic emotion regulatory processes to determine when they are being used out of context or too frequently or when they are being underutilized or are inaccessible. This emotion regulation perspective on psychopathology emphasizes the ability to not only engage in emotion regulatory strategies but also manipulate and modulate their implementation. Research has supported this perspective, suggesting that psychological adjustment may indeed depend upon the ability to flexibly enhance or suppress emotional expression in accord with situational demands (Bonanno, Papa, Lalande, Westphal, & Coifman, 2004; see also Salters-Pedneault et al., Chapter 6, this volume).

We recognize the appeal of distinguishing between regulation and dysregulation, particularly in the realm of psychopathology research, where the field has a tendency to pathologize emotion regulation by supplying the term *dysregulation.* However, we argue here that the field will move forward more productively by adopting the developmental, process-oriented approach that incorporates both components inherent to emotion regulation: adopting the relevant skill set and implementing the skill set appropriately depending upon context.

Emotion versus Emotion Regulation: Two Distinct Processes?

The debate persists over whether emotion and emotion regulation are distinct processes. Some researchers have proposed that the processes underlying emotion and emotion regulation are largely shared. For example, people often regulate their emotions even before they are generated by selecting favorable situations that will preempt negative emotions. Consequently, some researchers argue that emotion and emotion regulation cannot be meaningfully separated and that all emotion is likely regulated to some extent (e.g., Campos, Frankel, & Camras, 2004; Davidson, 2000).

However, other researchers have argued against the suggestion that all emotion is regulated emotion. This "seems akin to saying that all behavior is unconsciously motivated—it is an assertion that is essentially untestable" (Kring & Werner, 2004, p. 365). Rather, these researchers believe that differentiating between emotion and emotion regulation as separable constructs is especially vital to understanding the nature of emotion-related problems and, specifically, emotion-related disturbances in psychopathol-

ogy. For example, in the case of GAD, it seems important to determine whether the excess of anxiety, worry, and irritability that characterizes the disorder results from an inability to down-regulate those emotions or whether it is simply reflective of a higher level of that emotion that remains in excess even when regulatory processes are intact. Indeed, we believe that distinguishing between emotion and emotion regulation is a vitally important process in examining emotion regulation in psychopathology.

Studies of Emotion Regulation in Psychopathology

In this section, we provide a few, brief examples of the ways that the Gross–Thompson (2007) conceptualization of emotion regulation has been studied in psychopathology in order to illustrate the promise of this approach. Research thus far has primarily investigated two processes central to this approach—suppression and reappraisal—in different mental disorders. We also illustrate the promise of other approaches, including studies of experiential avoidance, cognitive regulation, and mindfulness (all of which are more fully covered in later chapters of this volume). These latter approaches do not need to be viewed as divergent from the Gross–Thompson model. Rather, they can be understood as tests of specific processes in the broader model. Furthermore, the Gross–Thompson view does not fully capture all aspects of emotion regulation, leaving room for other approaches. Nevertheless, bonding research together by a common conceptualization will likely allow better cross-fertilization of findings across researchers and disorders.

Suppression

Perhaps the most studied regulatory strategy in psychopathology research is suppression. Suppression is a response-focused strategy that directly attempts to inhibit the expression of emotion (Gross & Thompson, 2007). Research in nonclinical samples indicates that those who report habitual use of suppression feel more negative emotions than nonsuppressors, experience fewer positive emotions, report more depressive symptoms, and feel less satisfied with life (Gross & John, 2003). In addition, in an experimental design investigating the cognitive consequences of suppression, those who were told to suppress emotional expression to a negative film clip were found to have poorer memory for the task relative to people who were not instructed to suppress or who were instructed to reappraise (Richards & Gross, 2000).

Following from evidence of the ill effects of suppression in nonclinical populations, research has focused on the role of suppression in psychological disorders. Studies have documented the greater use of suppression, among clinical populations compared with healthy controls, in a wide

range of psychological disorders, including anxiety and mood disorders generally (Campbell-Sills, Barlow, Brown, & Hofmann, 2006) and panic disorder (Baker, Holloway, Thomas, Thomas, & Owens, 2004), binge-eating disorder (Milligan & Waller, 2000), and PTSD (Roemer et al., 2001) specifically.

Researchers have also worked to translate basic findings on the untoward consequences of suppression into psychosocial interventions. For example, Mennin, Heimberg, Turk, and Fresco (2002) have argued that people with GAD feel emotions more intensely, yet lack adaptive regulatory strategies to handle this intense emotional experience. In an effort to cope, GAD patients use strategies, including suppression, to decrease emotional experience, which ultimately leads to more anxiety (Mennin et al., 2002). Mennin (2004) developed an integrative, emotion-focused treatment for GAD called emotion regulation therapy (ERT). ERT first involves teaching clients to identify their own patterns of maladaptive responding to emotional experiences. Clients then learn to identify and understand their emotions as well as utilize more adaptive emotion regulatory strategies. In short, the emphasis in this treatment approach is to teach emotion regulatory strategies as well as the ability to adaptively implement these strategies in appropriate contexts. (This approach is discussed in greater detail by Mennin & Fresco, Chapter 15, this volume.)

Reappraisal

Reappraisal, an antecedent-focused regulatory strategy, is a method of changing one's thoughts about a situation so as to alter its emotional impact (Gross & Thompson, 2007). Although suppression has been found to relate to more negative outcomes, habitual use of reappraisal has been related to greater experience of positive emotion, less negative emotion, and fewer symptoms of depression (Gross & John, 2003). Henry and colleagues (2008) measured suppression and reappraisal via self-report in schizophrenia patients and controls after viewing emotionally evocative film clips. Patients and controls did not differ in their reported use of suppression or reappraisal, but greater use of reappraisal in schizophrenia patients was correlated with reduced depression. In a study with claustrophobic participants, those in an exposure-reappraisal condition showed greater levels of fear reduction than those in the exposure-only condition (Kamphuis & Telch, 2000).

Clinicians and scientists are beginning to turn their collective eye toward developing interventions that promote helpful emotion regulation strategies, such as reappraisal. For example, Campbell-Sills and Barlow (2007) developed a treatment for anxiety and mood disorders that teaches clients to utilize cognitive reappraisal through emotion regulation training. Clients are taught to recognize their maladaptive emotion-driven behaviors and are then encouraged to engage in more adaptive alternative

behaviors, such as reappraisal. For example, a client with a fear of flying would be urged to identify the fearful cognitions surrounding flying. The client would then be asked to evaluate the rationality of these cognitions and taught how to reappraise the act of flying in a more realistic manner. (This approach is discussed in more detail by Fairholme, Boisseau, Ellard, Ehrenreich, & Barlow, Chapter 12, this volume.)

Difficulties in Emotion Regulation

Another approach to studying emotion regulation involves assessing emotion regulation strategies that are unhelpful. Gratz and Roemer (2004) developed the Difficulties in Emotion Regulation Scale (DERS), which measures difficulties in understanding and awareness of emotion, the ability to engage in appropriate behavior when experiencing negative emotions, and knowledge of effective emotion regulatory strategies. The DERS adopts dysfunction as its starting point. This may be useful in studying psychopathology: Researchers and clinicians want to identify what emotion regulation processes are not working well in order to intervene effectively. However, as noted earlier with respect to Cicchetti's bifurcation of emotion regulation problems and emotion dysregulation, the focus on pathology obscures an understanding of how these processes ought to ideally operate. In addition, it is important to point out that the processes central to the DERS and related questionnaires (e.g., rumination, self-blame) have been well characterized and studied in cognitive theory and research on depression and anxiety, and these may not be emotion regulatory strategies theoretically constrained by the Gross–Thompson definition.

Experiential Avoidance

Experiential avoidance focuses on the cognitive and emotional avoidance of distressing events and is arguably a concept closely related to suppression and attentional deployment in emotion regulation. From research on emotional suppression, we might expect that experiential avoidance would be related to poorer physical and mental health. Indeed, Hayes and colleagues (2004) have found that chronic attempts to engage in the experiential avoidance of negative private experiences is a strong predictor of psychopathology and is also correlated with measures of subclinical psychopathological symptomatology (see also Boulanger, Hayes, & Pistorello, Chapter 5, this volume).

Thus, experiential avoidance and suppression may be of similar nature and consequence. Indeed, the Acceptance and Action Questionnaire (AAQ; Hayes et al., 2004), a measure of experiential avoidance, is positively correlated with the Suppression subscale of the Emotion Regulation Questionnaire (Gross & John, 2003). However, the magnitude of the correlation is modest (.28), suggesting that the constructs are not entirely overlapping (Kashdan, Barrios, Forsyth, & Steger, 2006).

Mindfulness

Mindfulness involves focusing attention on all emotions rather than suppressing or avoiding an emotional event. As a relatively new area of scientific study, work is underway to both define mindfulness and develop measures suitable for assessing the construct (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006; Bishop et al., 2004). For example, Baer and colleagues (2006) examined the linkage among measures of mindfulness, emotion regulation, and experiential avoidance. When comparing measures of mindfulness with the DERS (Gratz & Roemer, 2004), ascribing to high levels of mindfulness was inversely related to difficulties in emotion regulation such as problems understanding, accepting, and using emotion regulatory strategies. Additionally, high levels of mindfulness were inversely related to experiential avoidance (as measured by the AAQ). Mindfulness has also been found to be negatively correlated with depression and anxiety symptoms and positively correlated with positive affect and subjective well-being (Brown & Ryan, 2003; Hayes & Wilson, 2003).

Current research has focused on developing and testing mindfulness interventions aimed at reducing stress and promoting psychological well-being (see Corcoran, Farb, Anderson, & Segal, Chapter 14, this volume and Valdivia-Salas et al., Chapter 13, this volume). Interventions such as mindfulness-based cognitive therapy (Segal, Williams, & Teasdale, 2002), dialectical behavior therapy (Linehan, 1993), and mindfulness-based stress reduction (Grossman, Niemann, Schmidt, & Walach, 2004) all involve mindfulness training as an aspect of intervention. Future research is needed to more clearly assess how mindfulness is used as an emotion regulation strategy constrained by the Gross–Thompson conceptualization.

Must We Unify? Can We?

The foregoing section identified just a few examples of the ways in which emotion regulation has been studied in psychopathology. Studies invariably adopt different definitions and methods for studying emotion regulation. This diversity of approaches begs the question: Do we need to agree on one definition?

Our position is yes. To encourage the communication and sharing of ideas across basic and applied research, a single, unified definition of emotion regulation will be beneficial. As evidenced by the brief review presented here, heterogeneity in approaches to studying emotion regulation

results in diverse findings that are challenging to synthesize. Adopting a broad conceptualization, such as that proposed by Gross and Thompson, will make less likely the possibility that the field continues to be characterized by results that are difficult to integrate. Stated differently, we believe the field will best be served by unifying around the Gross–Thompson model, which not only will support hypothesis forming and testing in basic research but also fits well in applied research on psychopathology. This approach allows for modifications to the conceptualization as new data come in and illuminate processes that are not fully encompassed currently.

Nonetheless, adopting a shared definition is not without pitfalls. One area of difficulty is making sure the model makes room for cultural differences in emotion and emotion regulation. Norms for emotion differ across cultures (e.g., Mesquita, 2001; Tsai, Knutson, & Fung, 2006). For example, whereas independent cultures (e.g., European American) place emphasis on the individual, interdependent cultures (e.g., East Asian) place emphasis on the group and, accordingly, on forming harmonious relationships with others (Markus & Kitayama, 1991). To the extent that emotion regulation processes serve the function of aiding an individual in identifying and pursuing goals relative to maintaining and developing adaptive relationships (Thompson, 1991), then cultural differences in these emotional norms will impact emotion regulation processes. Nonetheless, adopting a broad definition, such as the definition proposed by Gross and Thompson, leaves open many entry points to the study of emotion regulation in psychopathology.

Summary

Research on emotion regulation has burgeoned in the last decade. Along with advances in basic research, there is growing interest in translational research. That is, scientists are becoming increasingly interested in the extent to which difficulties in emotion regulation may be related to the cause and pathogenesis of psychopathology. As we strive to bridge basic and applied research on emotion regulation, it becomes increasingly important to identify a broad, useful, and widely shared definition of emotion regulation. Although we may be moving toward a more unified model of emotion regulation (Gross & Thompson, 2007), the field still lacks clarity in the way it defines and studies emotion regulation across mental disorders. We acknowledge the inherent conceptual and empirical challenge in this task. For example, factors such as cross-cultural differences that may impact emotion regulation processes should be considered. These are among areas for the field to further explore. Ultimately, we believe that definitional clarity in basic and applied emotion regulation research will best promote advances in our collective understanding.

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PART II

Problems of Emotion Regulation That Span Different Disorders

DESCRIPTIONS, MECHANISMS, COMORBIDITIES