

The Maturing Field of Emotion Regulation

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Interest in emotion regulation has a long history, yet the field only began to emerge as an independent field of scientific study in the last decades of the 20th century (Gross, 1998). Since then, the field has grown exponentially, as is evident in the number of scientific publications, books, conferences, and training programs that are now devoted to the topic. The field of emotion regulation is no longer emerging, it is maturing. This maturation brings with it a shift. Different questions come into focus, novel questions arise, and different challenges come to the forefront. This special section reflects the shift that is taking place as the field matures.

A Shift in Emotion Regulation Research

Early contributions to the field of emotion regulation originated in the developmental literature (e.g., Campos, Campos, & Barrett, 1989), and were quickly pursued by research in the adult literature (e.g., Gross & Levenson, 1993). Research on emotion regulation has continued somewhat independently within these two traditions since then (Gross & Thompson, 2007). This disconnect may have been due, in part, to the fact that, within each tradition, researchers were working on establishing emotion regulation as an independent topic worthy of attention.

Several decades of research have resulted in an impressive body of knowledge and a deeper understanding of the nature of emotion regulation (for reviews, see Garber & Dodge, 1991; Gross, 2007; Philippot & Feldman, 2004; Vingerhoets, Nyklicek, & Denollet, 2008). This ripening of the field carries with it two important implications.

First, there is no longer doubt that emotion regulation has important consequences for health and adaptive functioning. Instead, the field is now ripe for bridging different perspectives by uncovering and evaluating the basic assumptions that are guiding each perspective. Because emotion regulation concerns the regulation of emotion, any theory of emotion regulation is necessarily derived from basic assumptions about the nature of emotion. Such assumptions dictate the conceptualization of emotion regulation and the research questions that follow

(Campos et al., 1989). To facilitate progress and integration, it is important to explicitly identify core assumptions about the nature of emotion and understand how they shape different programs of research in the field.

Second, research on emotion regulation is no longer a subsidiary of research on emotion. Instead, research on emotion regulation now holds the promise of informing our understanding of emotion. As research in the field becomes more integrative and interdisciplinary it could potentially test assumptions about emotion. To illustrate the two points highlighted earlier, in the following section, I discuss the instrumental approach to emotion regulation as one example.

Instrumental Emotion Regulation: A Case in Point

The instrumental approach to emotion regulation (e.g., Bonanno, 2001; Parrott, 1993; Tamir, 2009a) suggests that people regulate their emotions in order to successfully pursue instrumental goals. The main premise of this approach is that the goal in emotion regulation is not necessarily to feel good, but to attain any prioritized goal (see also Campos, Walle, Dahl, and Main, 2011; Thompson, 2011). This approach is predicated on the idea that when people regulate their emotions, they are not necessarily seeking to change their subjective feeling state. Instead, they may be targeting related changes in physiology, cognition, motivation, behavior, or their social environment.

Inherent in the instrumental approach to emotion regulation is the assumption that emotions are more than feeling states—but how much more and in what sense? The answer depends on core assumptions about the nature of emotion and is likely to dictate how one studies instrumental emotion regulation. For instance, according to one view, each discrete emotion has a dedicated function, which it serves by motivating and organizing certain sets of behaviors (e.g., Izard & Ackerman, 2000). This view implies that, to study instrumental emotion regulation, one must first identify which emotion is likely to be most adaptive in a particular context, given its inherent function. Then one could test whether people seek that emotion within

that context. This view also implies that adaptive regulation involves cases where, in a particular context, an individual seeks to experience emotions whose functions are most applicable to that context. For instance, to the extent that the function of anger is to defend one's resources (e.g., Frijda, 1986), people should be motivated to increase or maintain anger when their goal is to defend their resources. Seeking other emotions in that context (e.g., happiness) may not be adaptive.

According to another view, however, emotions do not have dedicated functions. Instead, the intra- and interpersonal consequences of emotion depend on the individual's disposition, history of reinforcement, and cultural and social context (e.g., Campos et al., 1989). This view implies that, to study instrumental emotion regulation, one must first identify the likely consequences of an emotion for particular individuals in particular contexts. This view also implies that adaptive regulation involves cases where an individual seeks emotions that result in desired outcomes for that particular individual within a particular context. Adaptive emotion regulation, from this perspective, can take on many forms, and the degree to which it is adaptive may depend on the level of analysis (e.g., short-term vs. long-term; intrapersonal vs. interpersonal). From this perspective, there is no single emotion that is adaptive in a particular context. To study instrumental emotion regulation, therefore, one must take into account the person's history and the unique social context in which regulation takes place.

These examples demonstrate how core assumptions about the nature of emotion dictate the ways in which instrumental emotion regulation is conceptualized, the types of research questions asked, and possibly even the methods used to test them. In turn, research on instrumental emotion regulation offers the opportunity to test assumptions about the nature of emotion. For instance, if emotions have inherent functions, people are likely to benefit from emotional experiences whose function matches the context in which they are experienced. On the other hand, if the consequences of emotions vary by person and by context, the same emotion may be beneficial to some and not to others, and it may be beneficial for some people in certain contexts, but not in others.

Similarly, if emotions are linked to specific action tendencies (e.g., Frijda, 1986), people should prefer emotions whose action tendencies are congruent with their goals. However, if emotions are not linked to specific action tendencies, people may prefer to experience a broad range of emotions, depending on their unique learning history and the features of the context. By assessing what people want to feel in different contexts, how people vary in such preferences, and the actual implications of emotional experiences for goal pursuit, such hypotheses about the nature of emotion may be put to the test.

In a recent set of studies (Tamir, Salerno, & Ford, 2010), we've tested whether beliefs about the usefulness of emotions in particular contexts can be manipulated, and whether such beliefs determine what people want to feel. We found that beliefs about the usefulness of emotions can be modified and that people show stronger preferences for emotions that they have been led to believe are useful. We are now testing

whether the influence of emotions on subsequent performance is independent of, or defined by, the individual's beliefs. Findings would be consistent with the idea that emotions have inherent functions if they promote performance in theoretically-consistent ways, regardless of the individual's beliefs. In contrast, findings would be consistent with the idea that the consequences of emotions are constructed, if they promote performance only to the extent that people expect them to do so. This and other research programs demonstrate how research in emotion regulation could shed light on the understanding of emotion.

As demonstrated in this section, the maturation of the field of emotion regulation carries with it pragmatic implications. Celebrating this shift, contributors to the special section were asked how the understanding of the nature of emotion shapes research on emotion regulation, and how research on emotion regulation, in turn, informs the understanding of emotion. As contributors considered these overarching questions, they highlighted some of the main challenges that the field faces as it matures. These challenges are summarized in the sections below.

Why Do People Regulate Their Emotions?

The previous section featured the instrumental approach to emotion regulation, which focuses on what people want to feel. The majority of research on emotion regulation, however, particularly in the adult literature, still focuses on how regulation takes place rather than on why it takes place. Understanding why people regulate their emotions is crucial, however, because such motives determine the direction of regulation (Tamir & Mauss, *in press*).

Both Charland (2011) and Campos and colleagues (2011) mention that emotion regulation researchers typically assume that unpleasant emotions are undesirable, whereas pleasant emotions are desirable, but that this is not necessarily the case. Campos and colleagues (2011) argue that feeling better is rarely the desired end-state. Instead, consistent with the instrumental approach to emotion regulation described above, goals in emotion regulation typically involve attaining instrumental goals rather than hedonic ones (Tamir, 2009a).

Thompson (2011) and Izard and colleagues (2011) similarly argue that emotion regulation is undertaken in the service of higher-order goals. These ideas have now received empirical support. Different people can be motivated to experience different emotions (Tamir, 2005, 2009b; Tsai, Knutson, & Fung, 2006; Wood, Heimpel, Manwell, & Whitting, 2009) and people can be motivated to experience different emotions in different contexts (Erber, Wegner, & Theriault, 1996; Tamir & Ford, 2009; Tamir, Mitchell, & Gross, 2008).

Asking what people want to feel is different from asking what people ought to feel. Several contributors to the special section, including Campos and colleagues (2011), Izard and colleagues (2011), and Thompson (2011), raise the issue of adaptation in emotion regulation. According to Charland (2011), attempts to define adaptive emotion regulation moves

researchers away from scientific considerations and closer to moral ones. In his contribution, he cautions that emotion regulation necessarily involves a stipulation of desired end-states which is ultimately based on values. This, according to Charland, poses a challenge to emotion regulation research. His contribution also underscores the importance of considering philosophical and historical perspectives in emotion regulation.

As these contributions and our previous discussion of instrumental emotion regulation demonstrate, to understand the outcomes of emotion regulation is important to identify the goal of the regulatory process. Identifying desired end-states in emotion regulation and what gives rise to them, therefore, is an important challenge for emotion regulation research.

Emotion Generation and Emotion Regulation

The assumption that emotion regulation and emotion generation are conceptually distinct was imperative in the early stages of the field, because it justified the study of emotion regulation as such and helped form the unique identity of the field. Now that the field has moved beyond these early stages, researchers have returned to evaluate this question objectively.

In an insightful analysis, Gross and Barrett (2011) suggest that the distinction between emotion regulation and generation is dictated by theoretical assumptions regarding the nature of emotion. The more emotion is viewed as a unique mental state that cannot be decomposed into other types of mental states, the greater the assumed separation between emotion generation and emotion regulation. The more emotion is viewed as an emergent phenomenon that is constructed from other mental states, the less of a distinction there is between emotion generation and regulation. The authors discuss these ideas with reference to four types of emotion theories (i.e., basic emotion, appraisal, psychological construction, and social construction). This contribution exemplifies how the conceptualization of emotion dictates core assumptions about emotion regulation.

Kappas (2011) argues that emotion is never separate from emotion regulation. This is because, regardless of how emotions are conceptualized, emotions bring about changes that ultimately lead to their termination (i.e., they are auto-regulating). In addition, emotions regulate other processes, and so always involve regulation in some sense. Campos and colleagues (2011) and Thompson (2011) also mention the separation of emotion regulation from emotion generation. Campos was among the first to challenge the idea that emotion regulation and emotion generation are separable (Campos, Frankel, & Camras, 2004). His current contribution builds on the idea that emotions are always regulated to some extent.

The same notion is echoed by Thompson (2011). Like Kappas (2011), he argues that, because emotion incorporates regulatory processes, unregulated emotion does not exist. Importantly, Thompson implies that—and this view is shared by all contributors—emotion regulation can and should be studied, regardless of whether it is viewed as separate from emotion generation. The current challenge is understanding why, when, and how emotion and emotion regulation differ or overlap.

Intrapersonal and Interpersonal Emotion Regulation

The current contributions demonstrate how one's view of emotion shapes research on emotion regulation. Such effects are particularly pronounced when considering the emphasis on intra- versus interpersonal aspects of emotion. Disciplines that focus on processes that occur inside the individual (e.g., cognitive psychology; MacLeod & Bucks, 2011; neuroscience; Dillon, Deveney, & Pizzagalli, 2011) study emotion regulation as an intrapersonal process and typically do not consider the role of others. In contrast, disciplines that highlight social interactions (e.g., developmental psychology; Campos et al., 2011; sociology; Barbalet, 2011) typically construe emotion regulation as a relational process.

Kappas (2011) argues that emotion regulation is influenced by social processes. Although emotion occurs within the person, it can be influenced by, among other things, one's social environment. The emotions of one person can influence the emotions of another and, hence, other people serve as means in emotion regulation. Barbalet (2011) views emotion as more socially constructed. He defines emotion as the experience of involvement when people interact with their (often social) world. From this perspective, emotion regulation is the regulation of one's involvement when interacting with the world. Such regulation can be undertaken by anyone involved in the interaction (e.g., the emoting person or the person she is interacting with). Emotion regulation, from this perspective, does not reside within the individual. It resides within social interactions.

Campos and colleagues (2011) take an even more extreme approach. Like Barbalet (2011), they view emotion as inherently social. However, they go on to argue that, because emotion is social, studying emotion regulation in a solitary context leads researchers to miss critical aspects of the phenomenon. In their contribution, the authors carefully lay out the theoretical and methodological implications of an intrapersonal and a relational approach to emotion regulation. Taken together, these contributions point to the importance of considering emotion regulation as a process that occurs within a social context, is influenced by forces outside the person, and that can shape the social (and non-social) environment.

Bridging Different Perspectives to Emotion Regulation

The contributions to this special section not only show that emotion regulation is of interest to researchers from diverse disciplines, but they also demonstrate how research on emotion regulation in different disciplines can be integrated. First, the current contributions bridge the developmental and adult literatures. Izard and colleagues (2011) discuss emotion regulation from the perspective of Differential Emotions Theory, and Thompson (2011) discusses emotion regulation from the perspective of Developmental Systems Theory. Although very different, both analyses demonstrate how adult research on the neural correlates of emotion and emotion regulation informs

developmental research on emotion regulation, and how the development of emotion regulation sheds light on healthy and unhealthy emotion regulation in adults. Campos and colleagues (2011) offer a view of emotion regulation that is equally applicable to the developmental and the adult literatures; they review research in both traditions and point to implications for future research on emotion regulation, as studied by researchers from any discipline.

Second, MacLeod and Bucks (2011) discuss the links between research on cognition and emotion. Highlighting the role of cognition in emotion dysfunction, they underscore the importance of studying the cognitive aspects of emotion regulation and their role in psychopathology. The idea that cognitive processes play a critical role in emotion regulation is also highlighted in other contributions. Izard and colleagues (2011) emphasize the importance of emotion–cognition interactions, arguing that emotion knowledge plays a critical part in the development and instantiation of emotion regulation. Barbalet (2011) discusses conscious and unconscious processes in emotion regulation from a sociological perspective. These contributions demonstrate the ways in which different disciplines can shed light on the role of cognition in emotion regulation.

Third, several contributions highlight the implications of research on emotion regulation to psychopathology. Dillon and colleagues (2011) suggest that research on psychopathology can inform our understanding of emotion as well as emotion regulation, and vice versa. They discuss such bidirectional links in the context of fear, anxiety, and reward processing. MacLeod and Bucks (2011) suggest that, by identifying the cognitive underpinnings of emotion regulation, it may be possible to uncover novel processes that underlie psychopathology, as well as new possibilities for treatment. Thompson (2011) suggests that understanding what emotion regulation is, how it functions, and how it develops, could help uncover the mechanisms that give rise to psychopathology. Charland (2011) offers a more critical analysis of emotion regulation and psychopathology, proposing that both fields prescribe normative ends. Viewed in this light, emotion regulation may share an intimate link with history and philosophy.

Finally, the contributions to this special section examine emotion regulation at multiple levels of analysis, from social interactions to the firing of neurons. Providing a neurobiological perspective, several contributions discuss the neuroscience of emotion regulation. As Dillon and colleagues (2011) demonstrate, affective neuroscience has much to offer to research on emotion regulation. They review cutting-edge research on neural mechanisms involved in approach and avoidance motivation and propose that such research programs can inform our understanding of emotion, emotion regulation and psychopathology. The authors also highlight the challenges faced by those who undertake such novel integrative research.

The contributions of neuroscience to the study of emotion regulation are also discussed by Thompson (2011) and Izard and colleagues (2011). These authors show how neuroscientific evidence can help test assumptions about the nature of emotion regulation

and the mechanisms that underlie it. These contributions also demonstrate, however, that neuroscientific evidence is subject to different interpretations and that the same evidence can be used to support very different theoretical claims.

Internal and External Validity in Emotion Regulation Research

As researchers built the field of emotion regulation, considerable attention was devoted to establishing the internal validity of the construct. Researchers focused on identifying and replicating certain instantiations of emotion regulation in the laboratory and on testing their causal implications. The contributions to this special section suggest that emotion regulation researchers now have an array of research methods at their disposal that will continue to grow in size and in scope. Emotion regulation methodology now faces two distinct challenges.

First, emotion has only recently begun to attract the attention of cognitive psychologists, neuroscientists, and clinicians. This cross-disciplinary pollination is not limited to theories and ideas. Such disciplines offer new sophisticated experimental methods with which to study emotion regulation in the laboratory. For instance, MacLeod and Bucks (2011) point to the utility of using cognitive-experimental methods to study the role of cognition in emotion regulation. Such methods allow researchers to directly assess the role of cognitive processes, such as selective attention, without relying on introspection (e.g., Isaacowitz, Toner, & Neupert, 2009; Joormann & Gotlib, 2010). Similarly, Dillon and colleagues (2011) point to the utility of using neuroscience to study the neural mechanisms involved in emotion regulation (see also Berkman & Lieberman, 2009; Ochsner & Gross, 2008).

Second, such endeavors raise important questions about external validity. In particular, research that examines emotion regulation in a context that is devoid of personal goals and social interactions may conceal important characteristics of the phenomenon as it occurs in daily life. Barbalet (2011), for instance, argues that focusing on cognitive or physiological components does not allow researchers to comprehend emotion regulation as the social process that it is. Similarly, Campos and colleagues (2011) and Kappas (2011) bring concerns about external validity to the forefront. They call researchers to examine emotion regulation within social contexts, in response to personally-relevant emotional experiences, considering ongoing personal goals. They further highlight the need to assess outcome measures dynamically and allow for flexible interpretations of behavior. Balancing issues of internal and external validity may be a serious challenge for emotion regulation researchers, but one that now, more than ever, they may be equipped to handle.

Conclusions

This special section points to the shift that is taking place in a field that is maturing. As research on emotion regulation accumulates and becomes more sophisticated, the field begins to

provide answers to central questions (e.g., how do people regulate emotions? what are the consequences of different regulation strategies?) bringing other questions to the forefront. Some of the questions that are highlighted in this special section are novel. Some are old questions that the field is now ready to address. The future is exciting because answers to such challenges may steer the field in novel directions.

The contributions to this special section help bridge the past, present, and future of the field, in providing diverse conceptual, methodological, and disciplinary perspectives. The contributors represent different disciplines and different theoretical perspectives. They highlight different views of emotion and, as a consequence, emphasize different theoretical and empirical questions. By pointing to common grounds as well as by highlighting points of controversy, the contributions to this special section provide a glimpse into the growing pains and pleasures of the field. I thank the contributors for their contribution and for their openness to engage in a continuous and stimulating dialogue, which may prove to be the key for future progress.

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