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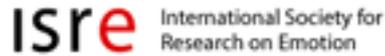
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# Reconceptualizing Emotion Regulation

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## Abstract

Emotion regulation is one of the major foci of study in the fields of emotion and emotional development. This article proposes that to properly study emotion regulation, one must consider not only an intrapersonal view of emotion, but a relational one as well. Defining properties of intrapersonal and relational approaches are spelled out, and implications drawn for how emotion regulation is conceptualized, how studies are designed, how findings are interpreted, and how generalizations are drawn. Most research to date has been conducted from an intrapersonal perspective, and the shortcomings of this approach for understanding emotion regulation are highlighted. The article emphasizes major conceptual and methodological steps required for a fuller description of the process of emotion regulation.

## Keywords

emotion, emotion regulation, intrapersonal, psychology, relational

## Two Approaches to Emotion

An epistemological divide exists today in how emotions are construed. That divide is between the *intrapersonal* and the *relational*. The chasm between the two views is conceptually and methodologically enormous, yet rarely recognized. Nevertheless, the choice of stance profoundly affects one's preference for understanding what emotions are, how to study them, and knowing what emotion regulation is regulating. The purpose of this article is to describe some of the major points of difference between the two approaches, draw out the methodological implications of each view, and note their consequences for studying emotion regulation.

### *Characteristics of an Intrapersonal Approach to Emotion*

The intrapersonal view of emotion is the canonical one. This view is held by the man-on-the-street, the authors of the *Oxford Encyclopedic English Dictionary*, and apparently the majority of researchers in the field of emotion, such as James (1892/1948), Tomkins (1962), Izard (1977), and Laird (2007), among

many others. In the intrapersonal view, the primitive to be explained, the ultimate cause of behaviors deemed emotional, and what has to be changed when one wants to regulate one's emotion, is usually feeling. William James (1892/1948) said it well: "Our feelings of bodily changes as they occur *is* the emotion" (p. 375). Although not all intrapersonal views center on feeling states as the basis for emotion, the alternatives proposed for feelings are equally intrapersonal. The alternatives to feeling are usually physiological responses (either autonomic, endocrinological, or cerebral), expressive behaviors of face, voice, and gesture, or the generators of instrumental behaviors such as approach and avoidance. Many textbook definitions of emotion are concatenations of the phenomena of feeling, physiology, and expression into a single proposition.

The intrapersonal view does acknowledge the role of the extra-personal (e.g., the environment), but more often than not, the extra-personal is considered as an "incentive event"—a stimulus that has a close to 1:1 relation to the generation of a given emotion in as many research participants as possible. Although many researchers now acknowledge the importance

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of appraisal in giving different meanings to the same physical event, much research based on incentive events (e.g., a film of a circumcision rite, the presentation of a spider, or a scene of a beautiful mountain vista) chooses a particular film, slide, or narrative because of its capacity to generally elicit a single emotion—the more inevitable the evocation of a single emotion, the better the stimulus. Indeed, stimuli that fail the test of elicitation of a specific emotion are generally discarded because of the desire to manipulate the essence of an emotional state (see Coan & Allen, 2007).

The intrapersonal view recognizes that emotions play a role in action on the environment, and in that sense, the intrapersonal view touches on the relational. However, the typical studies on emotional expressions in the face, voice, or gesture use expressions of emotion solely as dependent variables. When studied as independent variables, expressions are typically used as feedback processes to account for feelings (Laird, 2007), or to assess the effectiveness of instructional sets on behavior. Only a scattering of work considers how those expressions may be much more than readouts of internal processes or feedback to the brain, and serve instead relationally—as signals or broadcasts that powerfully influence the behavior of others in the environment (e.g., Campos & Stenberg, 1981; Scherer, 1992, when he considers vocal expressions as appeals).

### *Characteristics of a Relational Approach to Emotion*

By way of contrast, a relational approach to emotion emphasizes both the person and the environment as necessarily intertwined in the generation of affect, not unlike the two poles of a magnet in generating a field force. What makes the study of emotion necessarily relational is that all emotional encounters involve a relation between the person experiencing the emotion and the *object* of that emotion (Dewey, 1894; Solomon, 2000). Often, the object of the emotion is another person, with his or her own agenda, goals, and behavioral deployments. Each person then generates emotions in another, in reciprocal, contradictory, or harmonious ways. The encounter is no less relational when the object of the emotion is an inanimate object. For a young infant facing a four-foot drop-off, the ratio of head height (six inches) to depth is 8:1, a ratio sufficient to mediate fear. For a six-foot-tall adult facing the same drop-off the ratio is one of 1:1.5, low enough to elicit little or no fear. Indeed, as the child gets taller the wariness of the cliff changes from total avoidance to stepping gingerly. To a relationalist the study of emotion from an intrapersonal standpoint is like studying language in a solitary context. Talking to oneself does occur occasionally, and can provide valid information at times, but more often than not misses the essence of language, viz., the give-and-take of meanings exchanged between communicational partners.

The prototype of a paradigm that reflects a relational approach to emotion is one used to study couples' interactions on issues such as finances, how to rear children, and how to coordinate professional lives. In studies typified by the early work of Levenson and Gottman (1983), a couple attempts to arrive at a solution to a problem or conflict. Feelings, facial and bodily expressions, and physiological

activity are in the service of working out an interpersonal, mutual, solution. In a relational paradigm such as that of couples' interaction, affect, physiology, and expression are not end-states; they operate to act on the world and to influence the other person. In turn, the behavior of the other affects the first person. When one conducts research in the manner of researchers studying couples' interactions, one discovers that a smile can be in the service of joy, but also can be in the service of scorn; silence can express nonengagement in a social problem, but it can also reflect anger ("stonewalling"). Whereas most research within the intrapersonal approach has clear independent and dependent variables, the relational view rejects this categorical distinction. Every variable can be simultaneously cause and effect, influence and outcome. How one construes variables depends on one's point of entry into the flow of behavior. (Other examples of a relational methodology include the work of Bavelas & Chovil, 1997; Chovil, 1997; Papoušek, Jürgens, & Papoušek, 1992; and Shiota, Campos, Keltner, & Hertenstein, 2004).

In our prior work, we have proposed a working definition of emotion in an attempt to capture its relational aspect. For us, the basic principle of emotion is the registration that an event is important. Those perceptions and cognitions that are important to the person generate affect; those that are not (e.g., nonsense syllables in memory studies) do not do so. The second principle of emotion is that of action readiness (e.g., Barrett & Campos, 1987; Frijda, 1986)—the attempt by the person to *establish, maintain, change, or terminate the relation between the self and the environment on those matters that are important to the person*. This definition of emotion does not make criterial for emotion either feelings, expressions, physiological patterns, or specific behavioral actions—quite the contrary. The definition emphasizes what the person is *trying to do* (Dewey, 1894).

Ultimately, to reiterate, what makes a relational view of the study of emotion essential is the simple reality that the human being is embedded in a context that is primarily social. That social context can generate emotions when it enters into relations with the self. This relational "magnetism" can bring about extraordinarily powerful emotions such as love, hatred, envy, jealousy, guilt, and scorn—emotions not readily explained within an intrapersonal view. If what we say here has any validity, then the study of emotion regulation is not one of attenuating negative emotions such as anger, fear, and sadness, and promoting positive ones, such as joy and pride. It is not a process of up-regulating emotional reactions either, e.g., in the interests of creating more alertness. Rather, emotion regulation is typically a process of negotiating or coordinating the various goals and strivings of an individual who is in a relational encounter with another individual or groups of individuals with sometimes similar but often quite different goals and strivings to that of the individual.

### **What is Being Regulated by Emotion Regulation?**

The divergent views on emotion are necessarily accompanied by divergent views on what emotion regulation is regulating. In

the following, we discuss how the relational view differs from the dominant intrapersonal view of emotion regulation and draw theoretical and methodological implications from the relational view for research on emotion regulation.

### *The Intrapersonal View of Emotion Regulation*

One major way in which the intrapersonal view of emotion regulation differs from the relational centers on definition. According to an intrapersonal perspective, emotion regulation is comprised of the ways by which people influence which emotional states they have, when they have them, and how these states are experienced and expressed (Gross, 1998a). Hence, according to the intrapersonal view people regulate their emotions in an effort to achieve a *desirable emotional state*. In one situation, the sought-after emotional state may be a feeling state, for instance to feel better, and in another situation the goal may be to modulate expressive behavior, for instance to hide feelings of disappointment. There is little attention devoted to the *purpose* of the person's selecting an emotional state, timing its manifestation, and identifying which particular emotional responses to deploy, unless the investigator specifically instructs the participant in this regard. Such inattention occurs even when investigators explicitly mention that emotion regulation is in the service of a person's goals (e.g., Eisenberg & Morris, 2002; Thompson, 1994). As we shall see, such definitions, despite mentioning goals centrally, tell only half a story about emotion regulation.

Another way in which the intrapersonal view of emotion regulation differs from the relational centers on how best to study the basic mechanisms of the phenomenon. Because emotion regulation is hypothesized to happen through mechanisms bringing the individual from one emotional state to another, the principles by which these mechanisms operate are hypothesized to be relatively context-independent. That is, once one studies how the individual suppresses or modulates an expression of any given emotion, the mechanisms involved in such suppression or modulation of that emotion are assumed to generalize, regardless of whether the individual is alone or among a group of friends.

A third characteristic of intrapersonal approaches is paradigmatic. Research conducted under an intrapersonal epistemology is characterized by a preference for studying a single subject in a solitary setting. There is no doubt about such a paradigmatic preference. Since 2001, we counted 564 peer-reviewed empirical articles that have been published about emotion regulation in adults and adolescents; of these, only 66 (11.7%) studied emotion regulation while the participants were interacting with another person (see Figure 1).

### *The Relational View of Emotion Regulation*

Although social contexts are not the only ones in which emotion regulation may take place, in the relational account, the social context is the primary setting for emotion regulation. A common thread running through the subsequent sections is that the major challenge for future research on emotion regulation is to unravel how emotions are regulated in the active presence of other people.

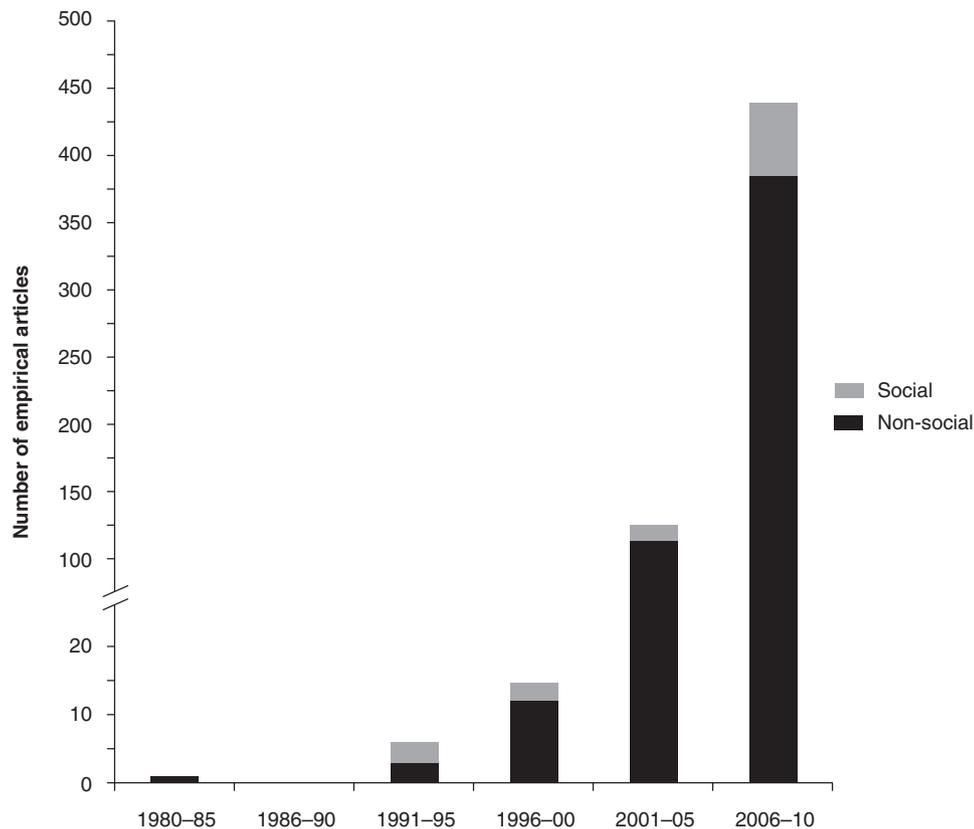
In the relational view, *emotion regulation involves the management of conflicting goals*. In that view, what is being regulated in emotion regulation is not the emotional state *per se*, but a *conflict between the goals of one person and those of another; and, on occasion, a conflict between the goals of a single person*. Imagine a young researcher getting an article accepted for publication in a top journal. Is spreading the news of her success the only concern at play here? The conflict between her desire to impress her associates and her colleagues' desire to maintain their own status, possibly by "putting her in her place," forces her to restrain her pride. Such goal conflicts are dealt with through acts that, in the aggregate, constitute emotion regulation. Each individual has multiple goals, and the goals of one individual often are in conflict with the goals of another individual, making regulatory challenges especially great in social contexts.

The term "management" for us is central for the understanding of emotion regulation, but our use of that term differs from the use of "management" by researchers favoring an intrapersonal perspective. For us, management involves a regulatory triad of *relinquishing, modifying, or persevering with one's goals in an attempt to move from conflict to negotiated outcome*. Although many emotion regulation researchers emphasize goals (e.g., Thompson, Lewis, & Calkins, 2008), there is a discrepancy between the intrapersonal view and the relational view of how goals enter into emotion regulation. On the former account, emotion regulation centers on *meeting* one's goal. In the relational view, emotion regulation is just as often about negotiating outcomes, including relinquishing one's goals in the interests of the negotiated outcome to which we have alluded. For instance, the researcher in the example above may modify her goal of sharing her happiness about her accepted article and instead greatly understate her own achievement. Similarly, stating that emotion regulation involves management of one's emotional responses is impoverished because "managing" can take on many meanings, some of which have no bearing on what the purpose of the management is. The devil is in the details, and for emotion regulation, those details involve the regulatory triad mentioned above.

In the following section, we lay out three key features of the relational approach to emotion regulation. Then, in the last part of the article, we draw implications of the relational view for several conceptual and methodological issues in emotion regulation research.

### *The Goal Conflict Shapes the Regulatory Challenge*

Different problems require different solutions and so do different regulatory challenges. According to the relational view, understanding emotion regulation requires attention to the nature of the challenge faced by the individual. First, the conflicting goals creating the challenge can differ in their *importance*. Maintaining long-term relationships helps give meaning to our lives, while getting along with a stranger rarely makes a difference in the long-run. In the event that these two goals are in conflict, achieving the former will often prevail over the latter. Next, goals can also differ in their *source*. We



**Figure 1.** Number of empirical articles reporting on studies of emotion regulation in social and nonsocial settings. Social settings were defined as those in which the participant's emotion regulation was assessed in the presence of another—actual or illusory—individual. Nonsocial settings were defined as those in which the participant regulated emotion in a solitary setting or when emotion regulation was assessed through self-report.

may enter a situation already having decided what we want, or negotiate our goals through interactions with others. Finally, goals do not only differ in themselves, but also in their relation to other goals. While completely conflicting goals force us to renounce some of those goals, partially conflicting goals may instead require skillful coordination. It is along these and other dimensions of goals and conflicts that our regulatory challenges differ.

### *The Flexibility of Emotion Regulation*

Because a goal can almost always be reached in more than one way, and individuals can choose how to negotiate conflicts between goals from the outset of a person–environment transaction one has flexibility in responding to emotional events. The principles of equifinality and equipotentiality of emotion highlight the flexibility of the individual in regulating emotion.

***The role of equifinality in emotion regulation.*** Just as different emotions may have the same expressive manifestation, an individual may use different emotion regulatory strategies to achieve similar outcomes. When one experiences anger, one

does not reflexively lash out. Indeed, in some cases, one lowers one's voice and merely stares unblinkingly at the other. In the case of our young researcher, her pride can be regulated either through a dampened expression of pride or through a qualitatively different display of false modesty. In the end, the latter strategy may turn out to be more effective in eliciting compliments from her colleagues. Both strategies serve similar functions—to avoid interpersonal conflict—but have distinct behavioral manifestations. The principle of equifinality is important in the study of emotion regulation because it asserts that the individual has a wide array of behaviors available to choose from when evaluating how to respond to a personally significant situation.

***The role of equipotentiality in emotion regulation.*** Different emotions can be manifested within the same behavior because the same behavior can have very different meanings depending on the context. For instance, a smile can be used to convey happiness, but, as noted before, a smile may also be used as a sign of derision—two very different emotional messages, each manifested in the same or very similar

ways. One can use the equipotentiality of emotion expressions to one's advantage in social interactions. For example, if two persons who dislike each other meet in a public setting, they may use a smile to convey mutual contempt. However, a naïve observer would likely view this exchange as a pleasant interaction.

Equipotentiality of emotion lends itself to equifinality of emotion regulation because we can use the same emotional expression to convey different meanings. We can use variations in context to convey different emotional messages with the same behavior. For instance, when we tease a friend, we are conveying affection, whereas the same comments made toward a stranger may convey hostility. It is the nature of the context (which includes the nature of the relationship of the people involved—a point to which we will return later) that determines how individuals use emotional expressions to regulate social interaction.

### *Emotion Regulation as a Non-Ordinal Process*

In a relational view there are no discrete instances of emotion followed by emotion regulation; rather, emotion regulation is a continuous process. As noted above, the intrapersonal view of emotion regulation relies on a temporal axis which allows for separating strategies occurring early in the emotion generation process (antecedent strategies) from those that occur late in the process (response-focused strategies) (Gross, 1998b; Gross & Thompson, 2007). Faced with a frightening situation, such as speaking in front of a large crowd, a person can choose to avoid the situation altogether (antecedent: situation selection) or suppress the expression of anxiety when on the podium (response-focused: expressive suppression). However, each time-point itself allows for great flexibility in emotion regulation, and these co-temporal strategies tend to have widely differing relational consequences.

Frijda (1986) argues that the emotion process does not always progress in an ordinal fashion. Furthermore, he argues that emotions are not discrete events, but rather processes that are influenced by what has taken place both before and after the emotional event itself. For instance, prior experience, level of arousal, and mood all influence our appraisal of and reactivity to a personally-significant event, and how we modulate our emotional responses influences our environment in a way that sets the stage for a whole new array of possible emotional events. This implies that people are continually negotiating between behavioral responses that move them toward some goals at the expense of others, meaning there is no way to ostensibly tease apart the “core” process of emotion from emotion regulation.

The above sections demonstrate how the relational view stands in stark opposition to the intrapersonal view of emotion regulation. Appreciating the relational view, including its emphasis on conflicting goals, the flexibility of response manifestation, the coordination of one's goals with those of the other, and the acceptance of the non-ordinality of the process has a number of implications both for theorizing about and for doing research on emotion regulation.

## **Two Theoretical Implications of the Relational View of Emotion Regulation**

### *We Do Not Always Strive to “Feel Good”*

In the relational view, in which a negotiated outcome is the goal of the regulatory effort, it is rarely the case that “feeling better” is the desired end-state of the transaction. On the contrary, it is often best not to try “feeling better”—a truism that has traditionally been overlooked in research on emotion and emotion regulation (Lazarus, 2003; Tamir, 2009). Consider a student trying to maintain a moderately high level of anxiety about a test in order to work harder, get a better grade, and ultimately gain the approval of his parents or the favorable impression of an admissions committee for a medical school. In this example, the student is attempting to motivate himself to work harder, as opposed to “feel better” by repeatedly telling himself that he will do just fine without any effort.

People can be shown to prefer so-called “unpleasant” to “pleasant” emotions in laboratory contexts. Maya Tamir and her colleagues have conducted a series of studies showing how people sometimes choose exposure to anger or fear stimuli when anger or fear is thought more conducive to success on a computer task or during a negotiation (Tamir & Ford, 2009). Tamir (2009) proposes to replace the traditional belief that people always try to maximize immediate “pleasure” with an instrumental model of emotion regulation. The instrumental model proposes that people will renounce short-term “pleasure” if it can lead to greater benefits, defined as “long-term pleasure.”

Expanding on Tamir's framework, we maintain that emotion regulation involves not just a choice between future pleasure and present pleasure, but also the *coordination*—the balancing—of future pleasure, present pleasure, and other concerns. Partially or wholly conflicting concerns often force the individual to engage in a skillful coordination of goal-pursuits, serving both short- and long-term goal satisfaction.

### *Distinguishing Adaptive from Effective Emotion Regulation*

Regulation is by its nature evaluative; it involves people taking “a stance toward their emotions and the consequences of their emotional actions” (Frijda, 1986, p. 401). Similarly, both lay-people and researchers may take an evaluative stance toward efforts to regulate emotion. Clinically-oriented researchers have been especially interested in classifying ways of handling emotions as either “adaptive” or “maladaptive” (Westen & Blagov, 2007). Here, we emphatically agree with Gross and Thompson (2007): What is an adaptive behavior in one context may be maladaptive in another.

Perhaps no study better illustrates the careful balance between adaptive and maladaptive behavior than the extraordinarily original investigation by Miller and Sperry (1987) of inculcation of aggression and anger by the parents of children growing up in poor neighborhoods outside of Baltimore, MD.

In this study, mothers were found to encourage aggressive behaviors in their children, sometimes by calling their toddlers sissies if they did not retaliate against an assault. Why did these mothers take such an extraordinary, atypical, approach to the socialization of anger and aggression? Because the mothers inferred that acting out one's anger was necessary to survive in a rough neighborhood! The aggressive behavior encouraged by the mothers mentioned above would probably not have been equally adaptive if the children were growing up in a high-SES suburb outside New York City. What we count as adaptive emotion regulation heavily depends on the goals toward which we think the individual should strive.

There is a second dimension to evaluating the adaptiveness of a response, namely the *effectiveness* of those efforts for achieving the sought-after goal (see Kamphuis, Ruyling, & Reijntjes, 2007). The difficulty of determining what is most effective or adaptive, all things considered, is that individual studies do not consider all things. The use of an interpersonal context is especially critical for a balanced assessment of what is adaptive overall. It is now common to think that cognitive reappraisal is typically more *adaptive* than expressive suppression (Gross, 2002); however, findings from several experimental studies reveal only that reappraisal is more *effective* in reducing self-report of negative emotions and physiological arousal in response to a video clip (e.g., Gross, 1998a). In contrast, suppression is more effective in reducing outward expression of emotions (e.g., Gross, 1998a). What in the end counts as the more *adaptive* of the two regulatory strategies cannot be determined independently of the goal conflicts they are invoked to resolve. A central question for future research, and one that has hardly received any attention, is *why* people choose one emotion regulation strategy over another in response to a particular goal conflict. Until this issue is resolved, we will not know whether expressive suppression is the cause or the consequence of lacking social support (Gross & John, 2003).

In the final section of the article, we will highlight how current methodological approaches often overlook the relational nature of emotion and emotion regulation. In particular, by paying insufficient attention to the nature of the underlying goal conflict and the flexible ways in which people typically deal with these conflicts, intrapersonal approaches preclude elucidating the principles of emotion regulation in their necessary breadth. Many of the paradigms used in contemporary research on emotion regulation are precisely not *paradigmatic*; they fail to elicit the forms of emotion regulation required in the interpersonal contexts of everyday life.

### Implications of a Relational Approach for Emotion Regulation Research: The Effort to Balance Internal and External Validity

Strikingly, 98% of reported instances of emotion regulation occur in settings with other persons (Gross, Richards, & John, 2006). This finding stands in marked contrast to the results of our literature search reported earlier, where only 11.3% of studies on emotion regulation assessed emotion regulation in a social

setting. The de-emphasis of the social aspects of emotion regulation is doubtless motivated by the desire to maximize the internal validity of the research because of the greater complexity of studies conducted in interactional settings. Of course, there is a delicate balance between internal and external validity in experimentation. Too little attention to internal validity can lead to findings with multiple or indeterminate interpretations. However, too much control can strip the ecological validity from studies of emotion regulation. Levenson and Gottmann recognized this conundrum as long ago as 1983:

The demands associated with laboratory experimentation extract significant compromises that may escalate until the experimental context bears little relation to natural dyadic interaction. For example, interaction between two strangers may be substituted for interaction between intimates; a carefully "programmed" confederate may replace the second person; and finally, the confederate may be replaced by a film, a photograph, an audio recording, or a situation created in the subject's own imagery. (p. 587)

Limiting and excluding interpersonal settings has allowed researchers some benefits in the study of emotion regulation. However, these benefits also come with costs, leading one to question whether what is typically measured in the lab extends to emotion regulation in everyday life. We now illustrate five types of experimental control prevalent in the emotion regulation literature that we believe sacrifice external relevance. These five types are stimulus control, controlling the goals of the individual, controlling the context, obtaining objective measures, and theoretical modeling of one's findings.

### Five Objectives Sought in Contemporary Studies of Emotion Regulation

**Achieving stimulus consistency.** By controlling stimulus presentation through pictures or video presentations, the researcher may control the emotion typically evoked by such stimuli. Such control is advantageous for ensuring that each participant is presented with the same stimulus, as well as to allow researchers to make fine manipulations in administering stimuli. What makes stimuli relevant in the real world, however, is neither the clarity of its perception nor its consistency in presentation; it is the personal relevance of the stimulus to one's goals or past history which determines the quality and intensity of the experienced emotion. Witnessing a scene may not be the same as undergoing the experience. For example, Lévesque et al. (2004) instructed teenage girls to regulate their sadness while watching a video depicting a teen at the funeral of a parent or loved one. Although such stimuli may reliably induce sadness in observers, the induced sadness may not be the same as that experienced if one were to actually lose a loved one. Nor is the regulation of the sadness likely to be analogous to that of a person actively regulating the same emotional experience in a context of personal involvement and significance. These factors leave one questioning how findings using such stimuli map onto everyday instances of emotion regulation.

One stimulus within everyday life is the interactive social relationships between individuals. Concern over standardization of stimulus presentation often results in researchers neglecting

the use of interpersonal settings, as these more dynamic contexts inevitably lead to less control of the experimental study. However, by identifying stimuli of similar personal relevance for each participant, researchers may maintain stimulus consistency *within* individuals, even though the specific stimulus may vary *between* individuals. An exemplary study illustrating how stimuli may be controlled within interpersonal interactions is represented in the work by Carstensen, Gottman, and Levenson (1995). Investigators monitored married couples' discussions of topics varying in significance and emotional charge that were acknowledged and rated by each couple. By identifying topics whose relevance and hedonic tone were consistent between couples, but whose content was couple-specific, Carstensen and colleagues were able to create stimuli that were personally relevant and evoked the emotion of interest for each participant.

**Controlling the goal of the individual.** One way emotion regulation researchers try to evoke a uniform response from a participant is by instructing the individual to have a particular goal, such as using a specific emotion regulatory strategy. This approach not only creates an artificial goal for the participant, but also leads to the assumption by the researcher that the instructed goal is the only goal of the participant.

Studies of appraisal and its relation to emotion regulation often instruct the individual on how to appraise or regulate (e.g., Seimer, Mauss, & Gross, 2007), or train the participant on how to reappraise (Levesque et al., 2004). Consider the nature of the goal conflict induced in a common experimental paradigm involving reappraisal and suppression (e.g., Gross, 1998a). Participants are instructed to use a specific emotion regulation strategy while watching a video clip designed to elicit a certain emotion. For instance, in the "reappraisal" condition, participants are asked to "think about what you are seeing in such a way that you don't feel anything at all" (Gross, 1998a, p. 227). First, note how the goal of the participant is controlled by the researcher, namely regulating emotion by using the instructed, imposed, strategy. Second, this paradigm fails to recognize other goals the participant may have, such as obeying experimenter instructions or being perceived as a caring person. The rationale for altering one's expressive behavior is not typically to appear devoid of all emotion, but rather to communicate something else.

More often than not, we regulate our emotions without being instructed to use one strategy rather than another. Placing individuals in situations involving a goal conflict, particularly when such a conflict is personally relevant, inherently creates a context in which emotion regulation is inevitable (e.g., being interviewed by a superior; see De Dreu & Van Kleef, 2004; Gramzow, Willard, & Mendes, 2008).

**Controlling contexts.** Not only are contexts that call for emotion regulation frequently interpersonal ones, but such settings are also the most important and conflict-laden. Social context has been found to impact the experience (Schachter, 1959), display (Fridlund, 1994), and regulation (Jakobs, Manstead, & Fischer, 1999) of various emotions. However, as

powerful as these studies are in demonstrating how others can impact one's emotion experience, they lack the social interaction inherent in everyday settings.

Recent fMRI research utilizing paradigms involving participants' trust and cooperation with another person, such as the prisoner's dilemma, indicates potential in creating more interpersonal and interactive settings (for a review, see Knutson & Wimmer, 2007). These paradigms implement planned manipulations of "other" responses, while allowing participants freedom to choose responses that will affect the interpersonal relationship. However, even in these studies one must note that there is still great constraint over the flexibility of the participant's responses, particularly in comparison to the flexibility one has in more naturalistic social settings. Deciding how much money to give a partner is only one way an individual can respond in such situations. Although including the presence (real or illusory) of a social other in empirical investigations of emotion regulation is a step in the right direction, it is not the same as a dynamic interpersonal setting. More recent work by Butler and colleagues (see Butler et al., 2003; Butler, Lee, & Gross, 2007) is encouraging. In these studies, participants watch the same emotion-eliciting movie and then discuss the clip. Not only does this type of research allow for flexible interaction between individuals, researchers were also able to look at how regulatory strategies (albeit instructed ones) affected interpersonal interaction and impression formation.

Regulatory functioning involves monitoring and modulating one's continuously fluctuating interpersonal relationships, and specifically how these relationships are perceived to relate to one's goals. An early example of this is demonstrated by Tiffany Field's (1978) research on caregiver facilitation of emotion regulation in infants through dyadic interactions. In her observations, well-attuned caregivers allowed the infant to disengage in face-to-face interaction when over-stimulated, and waited for the infant to reengage when ready for further stimulation. This behaviorally-regulated interaction highlights the function that emotion regulation serves in a dyadic setting, and in monitoring and adapting to situations of personal relevance to each party in the dyad.

Research investigating why particular individuals employ particular regulatory strategies and behavioral responses in particular contexts is crucial for our understanding of emotion regulation. While research using intrapersonal paradigms may ask these questions, we believe empirical investigations using stimuli of personal significance presented in socially dynamic contexts can provide researchers with valuable insight into the online emotion regulation processes that occur in everyday life.

**Creating objective outcome measures.** The degree of flexibility people possess in managing their goals creates a problem for researchers: How to infer the goals of the individual if there is a very large number of ways by which these goals can be manifested in behavior? Accordingly, when studying emotion and emotion regulation it is important not just to allow this flexibility in the behavior of the participants, but also to allow for flexibility when interpreting this behavior. Researchers of social

and emotional phenomena often struggle with how to objectively measure the construct of interest. An often cited advantage of using controlled stimuli and settings is that more objective measurement of dependent variables may be achieved. Measurements of brain activation, physiological response, carefully coded facial displays, and self-report are often used as indices of an individual's emotional experience. However, the objectivity of a measure does not guarantee its validity.

Many researchers desiring objective dependent measures limit the behavioral responses available to the participant. Some emotion regulation studies incorporating behavioral measures do so with indices far removed from behavior, such as reaction time (Knutson, Fong, Adams, Varner, & Hommer, 2001), intended action (Andrade, 2005), and facial display (Giuliani, McRae, & Gross, 2008; Goldin, McRae, Ramel, & Gross, 2008). Although such assessments may capture an element of the behavioral manifestation of the emotion regulatory process, they lack the ability to capture the rich complexity of the individual's response.

Reliance on a single index of emotion regulation is also problematic. An example of this is found in attachment research, where infant proximity to the parent as a single, objective measure does not necessarily illustrate the psychological proximity that is of greater importance (see Sroufe & Waters, 1977). It is important for researchers to use multiple indices of the construct of interest. For example, although the research referenced above by Field utilized physiological responses to monitor the effects of infant social stimulation, it was the linkage of these responses with behavioral manifestations that told the rich story of the regulatory interactions taking place. A more recent study by Dennis, Cole, Wiggins, Cohen, and Zalewski (2009) utilized a functionalist framework to investigate children's emotional expressions and problem-solving abilities in multiple frustrating tasks. Instead of using a single index (e.g., a facial expression) of a construct (the emotion itself), this study used multiple indices of emotion regulation across multiple contexts, demonstrating a convergence of research operations. (For other examples of converging research operations, see Kahen, Katz, & Gottman, 1994; Miller, McDonough, Rosenblum, & Sameroff, 2002.)

From a relational perspective, one determines (or at least presumes) that a given emotion regulation strategy is manifested by observing the individual's behavior in a particular context and inferring the function of this behavior. Based on the nature of the situation and the orchestration of behaviors manifested in response to features of the environment, one can infer the individual's strategy for negotiating between conflicting goals, and thereby regulating emotion.

**Modeling components in the process.** Finally, by constraining the experimental setting to a single antecedent–outcome design, researchers can isolate emotion experience and regulatory strategies. Emotion regulation research typically imposes a temporally rigid structure in empirical work to pinpoint the exact moment of emotion regulation. This may be done by explicitly instructing participants to regulate emotion at a specific time, or assuming that emotion regulation has only taken

place at the moment when an experimental manipulation occurs. Such designs lead to findings where emotion regulatory processes can be assessed with definitive beginnings and endings, such as in the model proposed by Gross (1998b). In this model, a regulatory strategy may be implemented at different points in the emotion process with varying effectiveness and outcomes for an individual. However, such a tidy process story is rarely observed or experienced in the real world and experiences of emotion rarely unfold in a linear manner. All emotions are inherently regulated and emotion regulation is a continual process. Thus, the resulting model may follow a temporal structure only because it was that structure which was implemented in the paradigm of inquiry. The fluidity of emotion regulation makes selecting a single point in the process insufficient if one wishes to understand the entire phenomenon.

Especially relevant is the previously referenced study by Carstensen et al. (1995), in which researchers set up a situation where married couples engaged in a conflict discussion with one another. Of particular note is the coding scheme used—Specific Affect Coding System (SPAFF; Gottman & Krokoff, 1989), which can be distinguished from other coding schemes mainly in its use of a *continuous* treatment of behavior. In other words, SPAFF allows coders to score observations in a dynamic manner. Because the setting of this relational study allows for free-flowing interaction, it is impossible to use typical coding schemes that select a single variable to code because each point in the interaction is related to the one before and has an effect on the one after. Using SPAFF in a dyadic interaction allows researchers to compare an individual's emotion with her partner's emotion, and thereby see a relation between how anger possibly gives way to contempt, contempt to resentment, and resentment to disinterest. One can see how one emotion can regulate another, and how emotional signals can regulate the emotions of the partner, which in turn have an effect on the individual's emotions.

There is no definitive point-at-able start or end to an interpersonal interaction. A person does not enter a social setting as a blank slate, but instead has preexisting goals, working models of relationships with those goals, and expectations of how the relationships may be affected by the social setting. Once in a social setting, these relationships are monitored and modified in a dynamic fashion in accordance with the perceived relation between an individual's goals and the continuously changing context. Finally, even after a social setting is "exited," its impact on one's goals may linger and have lasting effects. Because no study can possibly account for everything with which an individual enters a setting, paradigms creating an interactive context where the participant is allowed to engage with the setting in as naturalistic a way as possible can lead to rich and ecologically valid conclusions.

## Minding the Gap

Much more can be said about the nature of emotion regulation than space allows in this article. However, three points in this

article bear reiteration. First, there is indeed a conceptual and methodological chasm in research on emotion regulation. The gap is exemplified by the overwhelming difference between the proportion of subjects who report that they engage in emotion regulation in social contexts, and the small proportion of studies that place the subject in social contexts. Second, there is a major epistemological issue raised here. That issue centers on the implicit and widespread belief that studying emotion regulation in simpler, nonsocial contexts will yield findings that will eventually elucidate emotion regulation in more complex interactional settings. We doubt this assumption. It failed when the Law of Phylogenetic Continuity was shown by ethological research not to apply; what was learned in a “simpler” species did not generally explain the behavior of the more “complex” one. Furthermore, everyday considerations leave one with cause for skepticism: one cannot prepare fully for dancing without the participation of a partner; one cannot rehearse crucial aspects of the timing and phrasing of a violin and piano sonata by playing each instrument without the other; one cannot learn to hit a baseball effectively when one does not know where the other team will deploy its players. If we are wrong in our epistemology of contextualism, it is the responsibility of those favoring the canonical paradigm to demonstrate its applicability to interactive, real-world contexts. Third, emotion regulation is more than management of emotional responses; such regulation takes place for a purpose. The term “management,” therefore, must be accompanied by a phrase specifying what purpose the management is serving. We have attempted to give general rules for understanding management of emotion for a purpose. A whole is usually more than the sum of its parts; it is high time for research on emotion regulation to focus on the whole as much as it has done on the parts to date.

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