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Integrative emotion regulation: Process and development from a self-determination theory perspective

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Abstract

Grounded in self-determination theory's (SDT; Ryan & Deci, 2017) organismic perspective, we present a process view of integrative emotion regulation. SDT describes three general types of emotion regulation: integrative emotion regulation, which focuses on emotions as carrying information that is brought to awareness; controlled emotion regulation, which is focused on diminishing emotions through avoidance, suppression, or enforced expression or reappraisal; and amotivated emotion regulation, in which emotions are uncontrolled or dysregulated. We review survey and experimental research contrasting these emotion regulation styles, providing evidence for the benefits of integrative emotion regulation for volitional functioning, personal well-being, and high-quality relationships, and for the costs of controlled emotion regulation and dysregulation. The development of emotion regulation styles is discussed, especially the role of autonomy-supportive parenting in fostering more integrative emotion regulation, and the role of controlling parenting in contributing to controlled or dysregulated emotion processing. Overall, integrative emotion regulation represents a beneficial style of processing emotions, which develops most effectively in a nonjudgmental and autonomy-supportive environment, an issue relevant to both development and psychotherapy.

Keywords: integrative emotion regulation, self-determination theory, autonomy, mindfulness, emotion dysregulation

Autonomy has emerged as a critical concept in describing the direction of healthy development, and as a characteristic of full functioning and effective self-regulation (Ryan, Deci, & Vansteenkiste, 2016). When autonomous, persons are acting with a sense of volition and psychological freedom, and their actions are experienced as self-endorsed and congruent. Autonomous functioning is characterized by a lack of internal conflict and greater flexibility, as well as higher well-being. In contrast, autonomy disturbances play a central role in various forms of distress and psychopathology (Ryan, 2005; Vansteenkiste & Ryan, 2013). For example, in rigid internalizing disorders, people can be tyrannically perfectionistic and self-controlling. In contrast, oppositional disorders represent a reactivity to external control, accompanied by a lack of autonomous internalization. Because of its functional importance in both health and in psychopathology, a central focus of *self-determination theory* (SDT; Ryan & Deci, 2017) has been on the developmental and contextual factors that support and undermine autonomous functioning.

Within SDT it is recognized that autonomous regulation must develop not only with respect to external pressures, prompts, and temptations, but also with respect to emotions, impulses, and urges that emanate from within the person (Ryan & Deci, 2017). Self-regulation, that is, must develop at both the internal and external boundaries of the self (Greenspan, 1979). Among the most central processes associated with and supporting autonomous functioning at the internal boundary is that of *emotion regulation* (Ryan, Deci, Grolnick, & La Guardia, 2006).

Emotion regulation has been defined as the activities people engage in to influence what emotions they have, when they have them, and how these emotions are expressed (Calkins & Hill, 2007; Gross, 1998). Given this definition it is clear that people differ not only in the nature and intensity of the emotions they experience but also in how they motivationally respond to them. Emotions can, for example, be experienced as sources of pressure or control, in which case they may be reacted to with defensive suppression (Hodgins & Knee, 2002). Even more problematic, strong emotions can be experienced as fragmenting or overwhelming. Vulnerable individuals can thereby get dysregulated by emotional reactions, either letting them rule or being paralyzed to use or express them (Ryan, 2005). It is no doubt because of their potentially disruptive influence on self-regulation that much of the focus of emotion regulation research and interventions has been on how people can actively defuse or downregulate strong negative emotions and promote more positive affect. Studied techniques to control emotional experiences are diverse, including relaxation, mindfulness, cognitive reappraisals, and positive imagery.

Yet, as an organismic approach, SDT emphasizes that emotions are not just an obstacle to effective self-regulation and

psychological well-being; rather, they optimally serve an important function as sources of information (LeDoux, 1995), awareness of which allows for greater autonomous regulation and the positive consequences associated with it (Schultz & Ryan, 2015). Emotions signal the relevance and meaning of events relative to a person's needs, aims, or goals, thereby yielding the potential to enhance individuals' capacities for choice and authenticity. Approaching emotions as information is a process central to many emotion-focused therapies (e.g., Greenberg, 2015). In contrast, meeting emotions with attempts at avoidance or control can both contribute to, and be symptomatic of, a variety of mental health issues (Vansteenkiste & Ryan, 2013). By understanding the positive role of emotions in the integrative regulation of behavior, we can better understand what is suboptimal about other common forms of emotion regulation that focus primarily on diminishing emotional responses, such as emotion suppression, distraction, or at times, cognitive reappraisal.

Specifically, SDT research has been exploring a pathway that involves neither actively inhibiting feelings nor quickly seeking to reframe appraisals so as to alter what is felt, but rather first receptively allowing, and then taking interest in emotional experiences and their meaning. This process is described as *integrative emotion regulation* (IER; Roth et al., 2018; Ryan et al., 2006). We discuss similarities and differences of IER with other emotion regulation constructs in the field, including reappraisal strategies, suppression, and dysregulation.

SDT further posits that the development of more integrative forms of emotion regulation are enabled by parent supports for the developing child's basic psychological needs for autonomy (i.e., experience of volition), competence (i.e., experience of mastery), and relatedness (i.e., experience of care and belonging). The satisfaction and support of these needs predicts toddlers' (e.g., Bindman, Pomerantz, & Roisman, 2015), elementary school children's (e.g., Van der Kaap-Deeder, Vansteenkiste, Soenens, & Mabbe, 2017), and adolescents' well-being and healthy development in general (e.g., Vasquez, Patall, Fong, Corrigan, & Pine, 2016), while also contributing to their capacities for IER in particular (Roth & Assor, 2012; Ryan et al., 2016). Accordingly, we review research on how supports for basic needs, especially supports for autonomy, facilitate the development and expression of IER (e.g., Brenning, Soenens, Van Petegem, & Vansteenkiste, 2015). In contrast, need-thwarting environments have been associated with the development of more maladaptive emotion regulation styles. Consistent with a developmental psychopathology perspective (Cicchetti & Toth, 2009), we see that many of the same nutriments that contribute to healthy emotion regulation processes are, when neglected or actively obstructed, implicated in the development of dysfunctional types of emotion regulation and psychopathology.

SDT's Theoretical Foundation: The Full Functioning Person

The ability to regulate one's emotional experience and expression promotes adaptive behavior (Beauchaine, 2015), whereas difficulties in doing so predict maladjustment and even psychopathology (Cole, Hall, & Hajal, 2013; Gross, 2015). As such, both emotion regulation and coping are important predictors of wellness (Weinstein, Brown, & Ryan, 2009). Because strong emotions, especially negative ones such as anger, fear, or sadness, can be both unpleasant and disrupt functioning, many approaches to emotion regulation focus on diminishing negative experience (Berenbaum, Raghavan, Le, Vernon, & Gomez, 1999).

SDT's perspective of healthy emotion regulation is, in contrast, grounded in an *organismic* view of wellness (Ryan & Deci, 2001; Ryan, Huta, & Deci, 2008). From this view, wellness and mental health is represented by integrated and harmonious functioning. Such functioning is characterized by of awareness, assimilation, and self-regulated action (Ryan & Deci, 2017). In this perspective, rather than being obstacles that stand in the way of adaptive functioning, emotions are seen as informational inputs that can help in the choice and self-guidance of actions (Ryan et al., 2006; Vansteenkiste, Niemiec, & Soenens, 2010). Gaining access to and accepting both negative and positive feelings, either through self-reflection and/or volitional sharing, helps individuals understand both the nature of situations and make choices with respect to coping strategies or actions (Gratz & Roemer, 2004).

Based on the notion of a fully functioning person, SDT has from its early days emphasized the important roles of awareness and integrative processing in healthy self-regulation (Deci & Ryan, 1980; 2000). More recently, both theory and evidence have pointed to *mindfulness*, defined as open, nonjudgmental and receptive attention to what is occurring (Brown & Ryan, 2003), as enhancing autonomous functioning (Campbell et al., 2015; Chang, Huang, & Lin, 2015). Having the capacity to observe internal states without immediately reacting or responding is central to volitional self-regulation, and represents a cardinal feature of a mindful approach (Carmody, 2015).

Furthermore, to the extent both negative and positive events and memories are accepted, owned, and assimilated to the self, higher well-being and lower expressions of ill-being are evident (Van der Kaap-Deeder, Vansteenkiste, Van Petegem, Raes, & Soenens, 2016; Weinstein, Deci, & Ryan, 2011). Such findings have opened up research on more integrative approaches to emotions, including comparisons with common emotion regulation styles, to which we now turn.

SDT's Taxonomy of Emotion Regulation Styles

Within SDT, individual differences in motivation and behavioral regulation have been described within three general categories, namely, autonomous, controlled, and amotivated (Deci & Ryan, 1985a; Ryan & Deci, 2017). With respect to emotion regulation, SDT similarly posits three parallel forms of regulation: (a) an integrative approach that supports autonomy; (b) a controlled orientation to direct, reinterpret, or minimize emotional inputs; and (c) an amotivated or dysregulated approach in which emotions are poorly managed (Roth, Assor, Niemiec, Ryan, & Deci, 2009; Ryan et al., 2006). These three emotion regulation styles differ systematically in the quality and depth of processing emotions, and in their consequences.

Integrative regulation

IER, which in SDT has been described as an exemplar of healthy regulation at the internal boundary (Ryan et al., 2006, 2016), is an intrapersonal emotion regulation style that involves multiple components. First, IER involves a nonjudgmental, receptive attention to one's emotional experience, consistent with mindfulness (Brown & Ryan, 2003). Emotional inputs are approached in a nonbiased way such that they can come to full awareness without being flattened, minimized, or ignored. Second, it entails an additional active step: an interested and volitional exploration of the emotional experience and its relations and significance for other aspects of one's self, such as short- and long-term goals, values,

and preferences (Roth et al., 2018; Schultz & Ryan, 2015). Undergirded by curiosity, emotions are actively explored as to better grasp and experience their meaning and self-importance. Third, having gained awareness of the experience and its potential meaning or value, the individual is in a better position to make informed choices with respect to subsequent actions, which may entail either the volitional expression of emotions, thereby relying on others as a source of emotional support (Ryan et al., 2005), or volitional withholding (Kim, Deci, & Zuckerman, 2002). Flexibility in expression and withholding then is an outcome of this process of IER, not so much a goal in and of itself. Consistent with such theorizing, IER has been found to relate positively to openness for experience, authenticity, as well as greater reflection (Roth et al., 2018) and to promote greater well-being (Brenning et al., 2015).

Controlled emotion regulation

Although emotions can be sources of information, they also can be experienced as pressuring or threatening. When such appraisals arise, people often respond by attempting to control their feelings or their emotion expression. Thus, a common strategy, both examined in laboratory studies and observed in daily life, is *suppressive emotion regulation* (SER). SER involves the attempt to ignore, avoid, and hide negative emotions because they are experienced as evaluative or even dangerous. SER can occur early in an emotional sequence, when people deny or ignore the emotional experience. Suppression then includes *avoidance* of the emotional experience or, in a milder form, *emotional distancing*, so as to minimize its impact. As a result, the experienced emotion is not fully accessed or brought to awareness, and (unlike IER) there is little inner exploration taking place. SER may also happen later in the emotional sequence and then would be reflected in an attempt to hide or suppress the *behavioral expression* of the emotion. Because the expression of emotions typically gets inhibited for controlled reasons, individuals high in SER may function in an inauthentic way and are less likely to turn to others for emotional support and mirroring (Kim et al., 2002). It can thus impair one's capacity to share personal issues, or deal effectively with negative emotions in relationships (Roth & Assor, 2012; Shahar, Kalman-Halevi, & Roth, 2018). Emotion suppression has, for example, been linked with higher levels of depression (Berenbaum et al., 1999). Further, because the emotional experience is not openly attended to, it may well resurface, causing rumination (Thomsen, Tønnesvang, Schnieber, & Olesen, 2011).

Some emotion regulation strategies such as *cognitive reappraisal* can be deployed in either controlled or autonomous ways. That is, reappraisal can be used unreflectively as a defensive mechanism to minimize or avoid the experience of, or the information afforded by, emotions. However, reappraisal can also be applied as an adaptive tool for an individual who has already openly processed their reactivity and its consequences, and for whom the reappraisals are authentic, as we shall further discuss below.

Emotion dysregulation

Both SER and IER involve orienting to one's emotions, yet in respectively more controlled or volitional ways, emotional *dysregulation* is a state in which people feel unable to manage their emotions. Emotions are experienced as overwhelming and/or disorganizing, and hence, they interfere with effective functioning.

When dysregulated, people may have some access to emotions, yet unlike with integrative processing, they are not brought into any focused, calm awareness. Because of their overpowering nature, emotions can be expressed in unmodulated or impulsive ways, or alternatively they may be withheld. Emotion dysregulation is then associated not only with greater subjective distress and self-harming behavior (e.g., Emery, Heath, & Mills, 2016) but also with greater peer rejection, often because of expressive outbursts, disruptions, or withdrawal (e.g., Shields, Cicchetti, & Ryan, 1994). Regardless of expressing or withholding emotions, when dysregulated the individual experiences little choice in behavior, with accompanying relational tensions and subjective ill-being (Roth & Assor, 2012; Roth et al., 2009). In emotion dysregulation, several elements of IER are thus missing, including open and receptive awareness, interested reflection, and sense of choice concerning actions or coping.

SDT's Emotion Regulation Types in Relation to Other Conceptual Models

SDT's "taxonomy" of emotion regulation stems from its motivational focus, in which common forms of emotion regulation are related to autonomous, controlled, or amotivational processes within the individual. These SDT-based distinctions have both overlap and divergence from some other well-known conceptual models of emotion regulation, which we briefly review for comparison.

Ego-control and ego-resiliency

As discussed by Block and Block (1980) and Letzring, Block, and Funder (2005), *ego-resiliency* refers to the dynamic capacity to contextually modify one's level of ego-control in response to situational affordances, while *ego-control* refers to the lack thereof, with the level of control thus being either too high or too low. In the case of overcontrol, individuals characteristically contain impulse and affect across situations, even when doing so may not be necessary. In the case of undercontrol, individuals characteristically express impulse and affect across situations, even when doing so is inappropriate (Letzring et al., 2005). Thus, overcontrol overlaps with the SDT definition of suppressive regulation whereas undercontrol resembles the notion of emotional dysregulation. Ego-resiliency is considered a more flexible style, involving the appropriate *balance* between overcontrol and undercontrol. Unlike SDT's concept of IER, the ego-resiliency or balance concepts do not refer explicitly to people's openness to their emotions, or awareness and interest-based exploration, and it is not construed in terms of its level of autonomy or volition, a cardinal feature of IER. Instead, balance mainly describes the extent to which people are capable of flexibly switching between suppressing and expressing emotions, behaviors that from an SDT viewpoint may be either controlled and defensive, or autonomous and volitional.

Effortful control

In the developmental tradition, Eisenberg, Hofer, and Vaughan (2007) describe *ego-resiliency* and *effortful control* as highly related and overlapping. Effortful control is defined as the ability to refocus and shift attention to inhibit or initiate responses in the service of a nondominant response (Rothbart & Bates, 2006). Defined in this way, effortful control involves withholding a

dominant reaction, something which could, according to SDT, occur for either more controlled or more autonomous reasons (Ryan & Deci, 2008). Emotional integration does not concern the amount of control, but instead the exertion and development of regulation through awareness, choice, and volition. Prior work on the intersection of self-control and SDT has found that the pressured exertion of self-control is more energy draining and more quickly erodes subsequent self-control in an unrelated task compared to the autonomous regulation of self-control (Moller, Deci, & Ryan, 2006; Muraven, Gagné, & Rosman, 2008). Such findings can be related to the observation that emotional suppression, as a form of self-control in the emotional realm, yields a cost (e.g., Benita, Benish-Weisman, Matos, & Torres, 2019).

Mindfulness

Another construct strongly linked with the process of IER is *mindfulness* (Brown & Ryan, 2003; Chambers, Gullone, & Allen, 2009), defined as nonjudgmental awareness of one's present moment experiences. The first component of IER (i.e., receptive awareness of the emotional experience; Deci, Ryan, Schultz, & Niemiec, 2015) requires a mindful approach. Further, Brown and Ryan (2003) found that mindfulness facilitates autonomous regulation in daily activities, affording people greater sense of choice and flexibility.

Although overlapping, IER is not limited to receptive awareness but also involves *active* interest taking in one's inner emotional world, with the aim of coordinating these emotional experiences with other aspects of the self (i.e., needs, values, and aspirations) and the situational circumstances (Schultz & Ryan, 2015). It has been this active "interest taking" (Deci & Ryan, 1985b) in emotions that has been the focus of most of the experimental work on IER. That is, unlike mindfulness alone, IER also involves more active interest and inquiry into (rather than simply observing) emotions and using the resulting understanding to regulate the expression or withholding of emotions in a more volitional way.

Gross's process model of emotion regulation

Gross's (2013, 2015) process model on emotion regulation has been intensively studied and widely applied. This model outlines specific regulatory strategies that unfold during an emotional response. An emotion begins when the person attends to and evaluates emotional cues. A coordinated set of response tendencies is triggered but may be modulated over the course of the response. In this model, different strategies for regulating emotions appear at different times during an emotional response (Gross, 2002), with *antecedent-* and *response-focused strategies* appearing, respectively, before full activation of the emotional response and when an emotion is already in progress.

Two different specific strategies have received considerable attention. *Reappraisal* is a cognitively oriented antecedent-focused strategy, while *expressive suppression* is a behaviorally oriented response-focused strategy (Gross, 2015). In the case of expressive suppression, the emotionally aroused person attempts to decrease emotionally expressive behavior that is already in progress as to avoid its further unfolding. In the case of cognitive reappraisal, the person attempts to think about the situation differently and to construe the emotion-eliciting situation in nonemotional terms such that the emotion does not become salient to begin

with (Gross, 2002). A large body of research provides evidence for affective, cognitive, social, and physiological benefits of cognitive reappraisal when compared to behavioral suppression (see Gross, 2013, 2015). The advantage of cognitive reappraisal has been attributed to its timing, that is, the fact that the strategy is used prior to the unfolding of the emotional response.

Although cognitive reappraisal may be adaptive at times to downregulate emotional arousal, from the SDT perspective such reappraisal itself needs to occur volitionally. In other words, reappraisal can be a controlled process, in which a person distorts experience to avoid certain outcomes in an emotional moment. Reappraisals such as "It's not that bad," "He didn't mean it," or "Life can't be all that rosy" are voiced by many victims. Alternatively, active reinterpretation can be a healthy *by-product* of a preceding process of IER. That is, after having access to the emotional experience and having actively explored its meaning, one comes to a position where one can volitionally see how a different construal of the situation is warranted in everyday coping. Whereas unreflectively engaging in reappraisal, even in the service of diminishing emotions, risks the redirection of attention away from the important signals emotions convey, truly internalizing more adaptive appraisals and actively applying them can be a volitional and, hence, more adaptive approach to emotion control.

In sum, as argued by Wolgast, Lundh, and Viborg (2013), "experiential avoidance can be seen as being involved in all the main categories of emotion regulation strategies as specified in Gross' (1998) model" (p. 226). In this sense suppression, distancing, and reappraisal all differ from IER. Yet, when strategies such as cognitive reappraisals are considered *within* a process of IER, they can become more authentic and, hence, more compelling and adaptive. To use a metaphor, an adolescent, naturally inclined to see a glass as half empty, may feel forced by optimistic parents to see the glass as half full, a reinterpretation for which the teen may not be ready. Yet, if this adolescent comes to reconsider perspectives, and actually comes to appreciate the glass is also half full (something more likely to occur in IER), the reappraisal may yield greater benefits due to its more internalized character.

Consequences of SDT's Emotion Regulation Styles

Both survey tools and experimental paradigms have been developed to assess these three forms of emotion regulation, and specifically to compare IER with controlled and dysregulated emotion regulation. In what follows we review both types of research, highlighting the different benefits and costs of emotion regulation styles.

Correlational research

In a longitudinal study among early adolescents, Brenning et al. (2015) used the ERI developed by Roth et al. (2009), with a specific focus on the regulation of sad emotions. The ERI contains three subscales: IER (e.g., "Feelings of sadness can sometimes help me understand important things about myself"), SER (e.g., "When I feel sad, I almost always hide it so others won't notice it"), and dysregulation (e.g., "It is hard for me to control my sad emotions"). They reported that over the year-long study, IER predicted an increase in self-worth, whereas SER related to an increase in depressive symptoms.

More recently, Brenning, Vansteenkiste, De Clercq, Soenens, and Antrop (2019) compared clinically referred Belgian adolescents and a matched control group of nonreferred teens on

their emotion regulation styles. Although both groups differed in terms of both internalizing and externalizing problems, mean-level differences emerged only for emotional dysregulation, with the clinically referred group being higher. More centrally, however, both emotional dysregulation and SER contributed to the frustration of adolescents' psychological needs for autonomy, competence, and relatedness, which, in turn, related to greater maladjustment. Maladaptive types of emotion regulation can thus obstruct the satisfaction of the basic needs SDT considers to be essential to wellness.

This pattern of findings has recently been found to hold across different countries. Sampling university students from Brazil, Israel, and Peru, Benita et al. (2019) reported that SER and IER related, respectively, positively to psychological need frustration and psychological need satisfaction, which both yielded a unique, yet opposing relation with university students' well-being. While the IER need satisfaction relation appeared unmoderated by country membership, the SER need frustration relation was found to be more pronounced among Israeli, relative to Peruvian and Brazilian, students.

Experimental research

Overall, this body of research begins to show that the studied regulatory styles within SDT yield differential relations with global outcomes such as well-being and problem behavior. At the same time, other studies have zoomed in on the microprocesses that take place when individuals attempt to handle emotion-laden stimuli (Pennebakker, 2004). For instance, Roth et al. (2014) examined participants' engagement in defensive and nondefensive written expression after exposing them to a short movie clip from *The Silence of the Lambs* (Utt, Saxon, Bozman, & Demme, 1991), which was found to elicit fear (Rottenberg, Ray, & Gross, 2007). Using Pennebaker's (2004; Tausczik & Pennebaker, 2010) word-category approach to assess the quality of participants' emotional processing, participants who were higher in self-reported IER were found to make greater use of word categories reflecting nondefensive emotional processing (e.g., greater use of past tense and self-referenced words), while those high in self-reported expressive suppression and dysregulation displayed an opposite pattern.

Although their first study focused on individual differences in emotion regulation, a second study by Roth et al. (2014) indicated that the capacity for IER could be experimentally activated, producing similar benefits. Specifically, prior to watching a fear-eliciting movie clip from the *Silence of the Lambs*, participants were assigned to either an IER or an expressive suppression condition. Participants in the IER condition were asked "to take an active interest in their feelings," whereas those in the suppressive expression condition were asked "to do their best not to show their feelings." A broad array of emotional, physiological, and cognitive outcomes was assessed following a first exposure to the fear-eliciting movie, as well as 72 hr later upon viewing the movie a second time. This second exposure was especially important because the benefits of IER may be expected to emerge over time. That is, when participants take an authentic and deep interest in feelings during initial exposure, this may *immunize* them against the adverse effects of fear the second time they watch the video (Weinstein & Hodgins, 2009).

Findings supported the "immunization" hypothesis. Although participants in both experimental conditions and the control group reported lower emotional arousal upon viewing the fear-eliciting film a second time, this reduction was significantly larger for the IER participants. Similarly, although all participants' skin conductance levels were lower during the second viewing of the movie, this shift was not more pronounced among those in the IER condition. Finally, participants in the IER, compared to those in the SER, condition scored higher on cognitive recall, presumably because their accepting and interested stance toward their own negative emotions when first encountering the frightening stimulus may have later freed them to pay closer attention when encountering the stimulus again.

While Roth et al. (2014) contrasted IER with a suppressive expressive condition, in a more recent study, Roth et al. (2018) examined IER's distinctiveness from *emotional distancing*, an emotion regulation strategy that can be used early in an emotional sequence (Gross, 2015). Participants watched the same fear-eliciting video fragments as in Roth et al. (2014), with those being placed in the IER condition receiving the same instructions. Those in the emotional distancing condition were asked "to try to adopt a detached and unemotional attitude" prior to watching the fear-eliciting film. After viewing the clips, participants were asked to write about their experience for 7 min, with the writing being coded in terms of its defensive or nondefensive character. Among results, participants in the IER group used more negative-emotion words in comparison to both the emotional distancing and control groups. According to Pennebaker (2004), the usage of negative-emotion words reflects less defensive emotional processing as it represents an attempt to bring the experience closer to one's self.

In two additional studies, Roth et al. (2018) examined whether the benefits of activated IER relative to emotional distancing would emerge after viewing the fear-eliciting movie at second exposure, when participants were asked to watch as they typically would. As predicted, although all participants reported lower emotional arousal when exposed to the fear-eliciting film a second time, this reduction was significantly larger for the participants in the IER condition. This tempered arousal in the IER condition was also indicated by the lower skin conductance found among those in this condition during a second exposure, compared to participants who were instructed to apply emotional distancing. Finally, congruent with Roth et al. (2014), activating IER also resulted in improved cognitive recall of details compared to emotional distancing, suggesting a greater ability to be present and engaged.

Relational Benefits of Integrative Emotion Regulation

Integrative emotion regulation not only entails personal benefits but also is conducive to more genuine, harmonious, and intimate interpersonal functioning. Greater and more differentiated awareness of emotions may enable individuals high in IER to develop greater sensitivity for the emotions of others, which would manifest through a more empathic stance. That is, individuals high in IER may generalize the interest-based stance they adopt vis-à-vis their own emotions, leading them to be better attuned to what is emotionally salient for others.

Correlational research

These general hypotheses have been supported across various SDT-based studies. For instance, in research examining empathy toward outgroup members, Roth, Shane, and Kanat-Maymon (2017) reported that adults with high IER displayed greater

empathy toward the adversity of innocent outgroup members. That is, they were better capable of identifying with the outgroup member's negative emotional experiences. This, in turn, predicted support for conciliatory policies. Emotional suppression, in contrast, yielded the opposite effect, presumably because individuals high in SER were less willing to experience or appreciate the meaning of the negative emotions (Chambers et al., 2009). This pattern of findings was replicated and extended in a mixed group of late elementary and junior high school students by Benita, Levkovitz and Roth (2017). Specifically, learners high in IER reported displaying greater empathic ability, which predicted both greater self-reported prosocial behavior and teacher ratings of the student's concern with his or her classmates.

IER not only predicts greater prosocial tendencies but also appears to be a critical resource for developing intimacy. For instance, Roth and Assor (2012) reported that individuals high on IER are more likely to empathetically support one's partner who struggles with emotional problems. In contrast, SER related negatively to the capacity to support others when expressing negative emotions and difficulty, while also being positively related to difficulties in expressing one's own negative emotions with a partner. Although it is hardly surprising that people who consistently try to ignore their negative emotions also attempt to hide them from close others, it is more revealing that this mode of emotional regulation also interferes with one's attentiveness to close others in need. Much as one has little interest in, or wishes to avoid, one's own negative emotions, individuals high in SER may display less interest in the emotional struggles of others, which may even be distressing to them. Further, because SER involves fewer opportunities to explore one's own emotions, this could considerably limit one's growth in critical emotional skills like recognizing, experiencing, verbalizing, and coping with one's own emotions. Conceivably, these deficiencies may impede one's ability to recognize and cope with others' emotions and to support those others when they are in need.

Finally, Roth and Assor (2012) showed that dysregulation came with similar costs as SER. Emotion dysregulation was negatively related to empathic listening and support when the partner expressed negative emotions, and to reduced disclosure of one's own emotional difficulties. Because negative emotions can feel overwhelming for those high in dysregulation, they may impulsively express their disorganized experience, which stands in contrast to intentional sharing of emotional experiences. The chaotic expression may involve regret and dissatisfaction that may be reflected by self-reporting reduced disclosure of their emotional experiences. In addition, listening to others in need may be confrontational and very distressing for individuals high in dysregulation (Shahar et al., 2018), which may shift their focus to their own emotional struggles and prevent them from adopting an other-oriented approach to others in distress.

Experimental research

Beyond these self-report-based studies, the interpersonal consequences of these different emotion regulation styles have also been examined experimentally. For example, Butler et al. (2003) reported that instructing one member of an unacquainted pair of women to suppress emotionally expressive behavior while discussing an upsetting topic resulted in disrupted communication, reduced rapport, and increased blood pressure in both the regulators and their partners. Using the same approach, Ben-Naim, Hirschberger, Ein-Dor, and Mikulincer (2013) found that

suppression increased cardiovascular arousal and negative affect among romantic couples who discussed a relationship conflict.

Shahar et al. (2018) explored the quality of a 10-min discussion between intimate partners about a self-chosen, conflictual topic and their felt emotions during the discussion. One member of each pair was assigned to apply one of the following emotion regulation strategies: (a) an IER stance of taking interest, (b) emotionally distancing themselves from the conflict, (c) suppressing their expressive behavior, or (d) a control group who did not receive any emotion regulation instructions. Although the other member of each pair was unaware of his or her partner's instructions, it was reasonable to expect that the naïve partner would also be impacted by the experimental manipulation.

The groups differed on a number of outcomes, although there were also some similarities. Instructed partners in the IER and suppressive expression condition reported higher stress than participants in the control group. It seems logical that even taking an active interest in one's emotional experience during a discussion about a conflict topic increases stress. Yet, the advantages of IER were apparent on different outcomes. Participants in the IER condition, both instructed and naïve, perceived the discussion as getting them closer to conflict resolution in comparison to both other experimental groups (i.e., distancing and expressive suppression) as well as the control group. This positive outcome may be due to the fact that instructed partners displayed higher engagement during the discussion, as indicated by greater signs of self-reported interest and emotional awareness in comparison to the other groups. Further, although no differences were found for naïve partners' self-reported stress, an interesting pattern of findings emerged for their ongoingly recorded skin conductance level. While naïve participants in the distancing and suppression conditions showed higher arousal as the discussion progressed, the opposite was true for the naïve IER participants.

Overall, this study suggests that, at least in the context of conflictual discussions in intimate relationships, higher stress does not necessarily lead to more maladaptive functioning. When increased stress was accompanied by greater interest and emotional awareness, as in the IER condition, it yielded more meaningful and fruitful interactions. Conversely, a lack of stress does not necessarily yield desirable results. Participants in the emotional distancing condition reported less stress than those in IER and suppression conditions, but they had no advantage in quality of communication or the perceived productivity of the discussion. Thus, unlike previous research advocating low levels of negative emotions as adaptive in terms of social relations (Butler et al., 2003; Halperin, 2016) and behavioral functioning (Gross, 2013), getting there through emotional distancing did not lead participants to perceive progress or growth as a couple.

Developmental Influences on Emotion Regulation Styles

Given the benefits of integrative functioning, SDT research has explored contextual influences that promote such unified self-functioning. Critical in this respect is whether the context is conducive to individuals' psychological needs for autonomy, competence, and relatedness (Ryan & Deci, 2017). The satisfaction of these needs serves as a critical ingredient for individuals' healthy development and wellness in general (Deci & Ryan, 2008; Ryan & Deci, 2000) and IER in particular. The role of a need-supportive, and more specifically an autonomy-supportive, environment for developing IER has been studied primarily within

the parent–child relationship (e.g., Roth & Assor, 2012), presumably because parents are primary socialization figures.

The growth-promoting role of autonomy-supportive socialization

Central to an autonomy-supportive approach is that socializing agents take other persons' frame of reference and accept their perspective for what it is. Autonomy-supportive socialization further involves following the person's pace of development, offering choice and encouraging self-initiation as well as providing meaningful and understandable rationales for expectations or demands.

Autonomy-supportive socializing agents do several things that would promote more IER. They respect the other's perspective, display intertest in and care about the other's feelings, and generally take an accepting or experience-validating stance toward the other. They are open and listening. Autonomy-supportive agents refrain from quickly filling in the other's perspective; instead, they follow the unfolding of emotions. By minimizing pressure, autonomy-supportive agents promote a sense of initiative and choice, which enables others to act in nonconstricted and exploratory ways, responding to available emotional information with curiosity and with less defensiveness. This, in turn, contributes to ownership and self-acceptance in the face of both positive and negative experiences.

Considerable research within SDT has shown that having autonomy-supportive parenting yields manifold benefits, including greater development of executive capacities and self-control (Bernier, Carlson, & Whipple, 2010), greater autonomous motivation (Soenens & Vansteenkiste, 2005), more secure attachment (Frodi, Bridges, & Grolnick, 1985), healthier identity development (Smits, Soenens, Vansteenkiste, Luyckx, & Goossens, 2010), and higher performance and prosocial behavior (Roth, 2008; Vasquez et al., 2016), among other outcomes. Although this large and ever-growing body of work highlights the importance of parental autonomy-support for adolescents' development, only a few studies have directly examined the consequences of autonomy support for emotion regulation.

Apart from being conducive to children's well-being (e.g., Vansteenkiste, Zhou, Lens, & Soenens, 2005), both Roth et al. (2009) and Roth and Assor (2012) showed that autonomy-supportive parenting relates positively to IER. Specifically, parents' autonomy support was related to an integrative style of regulating emotions, a relation that was mediated by a sense of choice. In their longitudinal study of adolescents, Brenning et al. (2015) reported that perceived maternal autonomy support predicted increases in emotional integration and decreases in suppressive regulation over time. Of interest here, the effects of emotional dysregulation were reciprocal in nature; parents' autonomy-supportive stance decreased over time if their adolescents displayed greater dysregulation at baseline, suggesting the struggles of parents when children are emotionally dysregulated, and the potential for negative spirals.

Autonomy-supportive parenting also conduces to greater disclosure and constructive emotional reliance (rather than emotional dependence) on parents. For example, Ryan and Lynch (1989) showed that whereas teens of controlling parents tended not to rely on their parents for emotional support, those of autonomy-supportive parents were more likely to turn to their parents in emotionally salient moments. This pattern was supported in subsequent cross-cultural research by Ryan et al. (2005). They showed, across both collectivist and individualist samples, that people are more likely to turn to others (e.g., parents or teachers) whom they perceive to be autonomy-supportive. Thus, autonomy support not only allows children to develop a nonjudgmental stance to their own negative emotions, thereby fostering greater intrapersonal awareness and exploration, but also conduces to more *interpersonal* sharing and openness. As Ryan et al. suggested, experiencing autonomy support facilitates the recruiting and use of social support, which in turn positively predicts psychological well-being.

The growth-impeding role of controlling socialization

Much as the satisfaction of individuals' basic psychological needs for autonomy, competence, and relatedness is essential for wellness and thriving, the frustration of these very same needs is said to be implicated in maladjustment and psychopathology (Vansteenkiste & Ryan, 2013). Experiences of need frustration manifest through feelings of pressure and internal conflict (autonomy), failure and inadequacy (competence), and loneliness and abandonment (relatedness) and may give rise to dysfunctional emotion regulation, as well as follow from it (Benita et al., 2019; Brenning et al., 2019). These experiences of need frustration are rooted in need-thwarting environments, where adult figures adopt controlling, chaotic, and/or rejecting approaches to children. These need-thwarting conditions have been found to relate to poorer self-regulation (Liu et al., 2018) and greater likelihood of internalizing as well as externalizing problems (e.g., Joussemet et al., 2008; Pinquart, 2017).

For example, Shields, Ryan, and Cicchetti (2001) coded children's narratives of parental styles in a sample of both maltreated and socioeconomically deprived children. Those whose parents were portrayed as less autonomy-supportive and consistent had greater emotion regulation problems, especially showing more acting out, withdrawn behaviors, and aggression. Emotion dysregulation was, in turn, associated with more peer rejection. Similarly, following toddlers during an 8-year span, Perry, Dollar, Calkins, Keane, and Shanahan (2018) reported that observed parental overcontrol at age 2 was associated with poorer emotion regulation skills at age 5, which, in turn, was associated with more child-reported and teacher-reported emotional, social, and school problems at age 10.

Although some controlling practices are more blatant and visible, such as spanking or intimidation, others are more subtle, yet also harmful, such as guilt-induction and conditional regard. The psychologically controlling practice of *conditional regard* has especially received attention from SDT researchers in relation to children's emotions and emotion regulation. Conditional regard is of two types: conditional *positive* regard involves socializing agents providing more attention and affection than usual when their children enact desired behaviors or display parent-preferred attributes; conditional *negative* regard involves providing less attention and affection than usual when they fail to do so. Although both types of conditional regard may lead children to behave in parent-prescribed ways (Aronfreed, 1968; Gewirtz & Pelaez-Nogueras, 1991), they have also both been found to prompt contingent self-esteem and diminished psychological functioning (Assor, Roth, & Deci, 2004; Grolnick, Deci, & Ryan, 1997; Harter, 1993; Roth, 2008).

In the context of emotion regulation, parents high in conditional regard are often judgmental of children's display of negative emotions. Children feel manipulated to minimize expression, and as a result, they may also distort their own awareness of negative

emotions. In light of this reasoning, Roth et al. (2009) expected that conditional regard would engender nonoptimal forms of emotion regulation, but with different consequences for positive and negative types of conditional regard. Conditional negative regard was expected to arouse resentment and anger, thereby undermining children's capacity to suppress their negative emotions and leading to the dysregulation of negative emotions. In contrast, conditional positive regard was expected to lead children to feel internally compelled to suppress negative emotions. Roth et al.'s (2009) results supported these hypotheses: conditional negative regard predicted dysregulation of anxiety/fear, in part mediated by the child's resentment of the parents, whereas conditional positive regard predicted both emotion dysregulation and suppressive regulation, results mediated by a sense of internal compulsion.

Furthermore, parents may not only pressure children to inhibit negative feelings; they can also pressure them to express and share emotions, even when children may not feel ready. This may be particularly relevant in adolescence or young adulthood, when some youth may wish to take more distance from parents (e.g., Meeus, Iedema, Maassen, & Engels, 2005; Van Petegem, Vansteenkiste, & Beyers, 2013). Adolescents may want to become more emotionally independent, that is, to sort things on their own before turning to others for support or advise; at times, they may simply not be able to talk about these negative emotions. Many parents, and perhaps especially those high in separation-anxiety (see Wuyts, Soenens, Vansteenkiste, Van Petegem, & Brenning, 2017), are likely to encourage their adolescents to share negative feelings, but as SDT suggests, using conditional regard to promote such sharing should lead to negative outcomes. Perhaps because emotions are highly personal, pressure to share them may be experienced as nonlegitimate, if not intrusive. Accordingly, in a study contrasting parental suppression- and expression-oriented conditional regard, Roth and Assor (2012) found that expression-oriented conditional regard (pressure to expose emotions) predicted emotion dysregulation. Presumably, children's preference to hide personal negative emotions and the experienced pressure to disclose them to satisfy controlling parents causes internal conflict and contributes to an unorganized handling of emotions. In contrast, suppression-oriented conditional regard (pressure to inhibit emotion expression) predicted the child's use of SER.

Controlling parenting, and conditional regard in particular, impedes not only the process of emotional integration but also one's ability to emotionally rely on others. For example, Roth and Assor (2012) found that expression-oriented conditional regard predicted dysregulation of emotion, which, in turn, predicted difficulties in emotional disclosure with intimate partners. Thus, dysregulation mediates the relation between parental conditional regard and difficulties in emotional sharing. Moller, Roth, Niemiec, Kanat-Maymon, and Deci (2018) demonstrated that college students who grew up with conditionally regarding parents tended to project conditionally regarding attitudes onto their partners and to choose intimate partners who are conditionally regarding themselves. That is, they choose partners who tend to reproduce the parental pattern of conditional regard (based on the partners self-reports). Given the negative association between parental conditional regard and difficulties in disclosure (e.g., Roth & Assor, 2012) and given the negative relation between parental conditional regard and secure attachment (e.g., Moller et al., 2018), it seems that parental conditional regard may impede gaining emotional support not only from the parents but also from significant others.

Implications

We can ask why, in a Special Issue on dysregulation in development and psychopathology, we highlight research on what is, from an organismic perspective, a healthy form of emotion regulation. Yet, consistent with a developmental psychopathology framework (Cicchetti & Toth, 2009), our interest is understanding how both healthy and maladaptive processes are related, an issue that bears on both developmental and therapeutic interventions.

In explicating IER, we note that it entails an open acceptance of emotions, and a capacity to take interest in them as carrying information value rather than as a source of pressure to act, feel, or think in a specific way, allowing a sense of choice with respect to subsequent actions. Research thus far suggests that such integrative processing is not only associated with higher wellbeing and high-quality relationships but also can help "immunize" the individual for subsequent emotional events. In contrast, approaches to emotion regulation that are focused primarily on diminishing negative emotions appear to yield fewer benefits, although some strategies such as cognitive reappraisal have clear utility as tools for coping relative to more suppressive approaches in handling emotional arousal (Gross, 2015).

Parenting

It is not surprising that SDT research suggests that autonomy-supportive parents are more likely to foster more integrative approaches to emotion regulation in their children. Central to autonomy support is the caregiver taking interest in the child's perspective, empathizing with and accepting feelings, helping clarify situations, and encouraging reflection and choice in actions. These autonomy-supportive elements of parenting may be internalized by the child, thereby serving as a model for how to regulate one's own emotions. That is, in the case of IER, the parent's accepting interest becomes adopted into a self-accepting, interest-driven focus on what one is feeling in a given situation. Experimental research is also showing how training parents to use autonomy support helps them reminisce with their children in a way that is more engaging and integrative (Cleveland & Morris, 2014). Future research can focus even more specifically and zoom in on the autonomy-supportive interaction features (e.g., empathy, validation, reflective inquiry, and respecting children's pace of emotional expression/withholding) that becomes internalized as healthy and integrative emotion and memory processing. Controlling parents are less tolerant or accepting of the child's experience or feelings. Thus, it is also not surprising that parents' controlling practices are connected with children's nonacceptance of their own feelings, as manifested through more controlled emotion regulation styles.

These findings linking parental autonomy support and emotion regulation styles also have implications for prevention and intervention efforts. For example, Joussemet, Mageau, Larose, Briand, and Vitaro (2018) introduced a child mental health intervention focused on parents called "How to talk so kids will listen & listen so kids will talk." Among other skills, the program emphasizes autonomy-supportive responses to children's emotional experiences, and the program has shown itself effective in significantly enhancing the autonomy support of participating parents. Even more recently, Allen, Grolnick, and Córdova (2019) introduced a preventive parent consultation program teaching autonomy-supportive communication skills. Such

programs show promise at translating SDT research into real-world practice.

Psychotherapy and counseling

The present findings also have direct relevance for counseling and therapeutic practice, especially given that many clients in therapy face the difficulty of resolving emotionally charged issues. Many clients already embrace controlled emotion regulation strategies. Some hold strong introjects about disclosing negative emotions, considering them as a sign of weakness or immaturity. Others may have grown up in an environment that was very judgmental and nonreceptive to certain emotions. In unpacking these emotionally distressing events and fostering greater awareness, counselors do well to adopt an autonomy-supportive stance, taking the clients' frame of reference, and thereby validating their perspective (Ryan & Deci, 2008; Vansteenkiste & Sheldon, 2006). An autonomy-supportive climate, which is generally conducive to disclosure (Legate, Ryan, & Weinstein, 2012; Ryan & Ryan, 2019), can allow suppressed feelings to (re)emerge, accompanied by a more explorative stance regarding the meaning of the felt emotion in relation to clients' held values, preferences, and interests. Along the way, initially diffuse negative affect may get differentiated such that clients begin to have a clearer view on the emotions they feel and their meaning (see Gratz & Roemer, 2004), which may afford them more volition and choice with respect to acting on these emotions or their catalysts (Ryan, Lynch, Vansteenkiste, & Deci, 2011).

Past research among diverse clinical samples, including patients with depression (Zuroff, Koestner, Moskowitz, McBride, & Bagby, 2012; Zuroff et al., 2007), addiction (Zeldman, Ryan, & Fiscella, 2004), externalizing problems (Savard, Joussemet, Pelletier, & Mageau, 2013), and eating disorders (Van der Kaap-Deeder et al., 2014), has shown that autonomy-supportive approaches to counseling contribute to more readiness for changes as well as more volition, thereby producing more sustained changes in symptoms over time.

An autonomy-supportive approach, with the fostering of a more integrative approach to emotions as a critical part of it, is also consistent with a number of existing therapeutic approaches. It has parallels with Gendlin's (1978) technique of focusing, in which emotions are engaged to discover their felt sense. *Acceptance and commitment therapy* (Hayes, Strosahl, & Wilson, 1999) also embraces strategies akin to IER. Acceptance and commitment therapy attempts to help clients move toward emotions with an open, nonjudgmental interest that encourages ownership and reflection. Similarly, *prolonged exposure therapy* (Foa, 2006), although based on theoretical considerations other than SDT, treats persons with posttraumatic stress by exposing them to an imagined traumatic event (Foa, 2006), including specific procedures for supporting the person's volitional emotional engagement (e.g., see Foa, Hembree, & Rothbaum, 2007; Jaycox & Foa, 1996).

The findings that integrating emotional experiences can help to reduce the level of arousal and also improve cognitive functioning (Roth et al., 2014, 2018) have important implications. For instance, in everyday life, people regularly encounter a variety of stimuli that elicit negative emotions. By focusing on processing those emotions in an integrative way, they may be able to diminish the emotional and functional costs of repeated exposure to the same (or similar) stimuli. In contrast, even positive cognitive reframing has been shown to be effortful, with potential cognitive costs (Bunge & Gabriel, 2002).

More generally, although the focus of much past emotion regulation and research and clinical methods has been on managing and diminishing negative emotions, and on reframing experiences in more positive ways, work on IER supports an alternative approach in which emotions and their meanings are brought into closer focus and reflection. Going *toward* emotions is central to many therapeutic techniques (e.g., see Greenberg & Vandekerckhove, 2008) and thus more research on basic processes and facilitators of integrative regulation, both in development and in the process of psychotherapy, may yield clinical value.

Conclusion: Full Functioning Requires Integrative Emotion Regulation

SDT's definition of adaptive emotion regulation describes the fully functioning person as receptive to a variety of emotional experiences, able to explore them without being overly judgmental, and able to use this sensitivity to regulate emotions and related behaviors volitionally. In this contribution, we contrasted such healthy emotion processing with other forms of emotion regulation, and reviewed research on the antecedents and outcomes of these different types of emotion regulation.

Studying optimal emotion regulation and the developmental conditions that support it is thus an important agenda, as it concerns helping individuals to move beyond merely coping with emotional stressors and adjusting, to learning from them. Although negative emotions are highly distressing at times, an integrative regulation of them allows for a richer and fuller life. Specifically, the research so far provides preliminary evidence that IER involves less defensive emotional processing and is conducive to immunization, as reflected in a lower emotional arousal in a second exposure to the same threatening stimulus, as well as better cognitive functioning during the exposure. Apart from these personal benefits, the adaptive role of IER also manifests interpersonally: for instance, through greater empathic responding, more prosocial behavior, and a greater capacity for intimacy. It suggests that a tolerant, accepting, and interested stance toward one's own negative emotions may be extended to an interest in others' adversities, even during a violent conflict.

These findings are in line with SDT's organismic definition of adaptive regulation. From the SDT viewpoint, regulatory styles such as expressive emotional distancing and reappraisal may be adaptive at times to keep emotions under control, especially to the extent that they are enacted volitionally. However, ideally emotion regulation is based upon not merely downregulating emotions but considering them as legitimate and important sources of information about situations, self, and others. Open, nondefensive exploration of those emotions can conduce to more flexible behavior regulation and sense of choice and autonomy more broadly. In these regards, IER reflects a distinctive emotional regulation process in which a tolerant, accepting, and interested stance to negative emotions can be used to foster wellness, capacities for intimacy, and better social functioning.

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