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New directions in developmental emotion regulation research across the life span: Introduction to the special section

Peter Zimmermann¹ and Ross A. Thompson²

Abstract

Research on the development of emotion regulation has become a prominent topic in developmental science covering a broad age range from infancy to old age because of its theoretical importance and practical implications. This introductory essay of this special section includes reflections on some of the conceptual themes of this research field and thoughts about its future directions.

Keywords

emotion regulation, life span, developmental mechanisms

Emotion regulation has been a prominent topic in developmental science for more than 35 years (Adrian, Zeman, & Veits, 2011). Developmental interest in emotion regulation was initially devoted to understanding early risk for affective psychopathology and the origins of social competence in childhood. These continue to be important goals, but as research in this field has expanded it is addressing a broader range of issues and age-groups across the life span. How do developmental neuroscience, research on ‘hot’ executive function and studies of children’s emotion representations offer new ways of thinking about emotion regulation? To what extent are strategies of emotion regulation context- and emotion-specific; or, instead, reflective of broader individual differences in personality organization? What does a life-span orientation offer to the study of emotion regulation, especially in relation to age-related changes in emotion goals? How do the emotional demands on at-risk children in troubled families require them to become emotional tacticians? Most generally, what are the implications of research on emotion regulation for emotion theory? The emergence of these and other questions contributes to the vitality of contemporary study of emotion regulation and its development.

There are various approaches to defining emotion regulation, and they tend to reflect different developmental orientations (children vs. adults), populations (clinical vs. nonclinical), and goals of research. Thompson’s (1994) definition of emotion regulation as ‘the extrinsic and intrinsic processes responsible for monitoring, evaluating and modifying emotional reactions, especially their intensive and temporal features, to accomplish one’s goals’ reflects a developmental functionalist perspective that encompasses the social regulation of emotion by others and children’s self-regulatory efforts. It is similar to other approaches focused on controlling, changing, and redirecting emotional arousal (Cicchetti, Ganiban, & Barnett, 1991) or on changes in activated emotions (Cole, Martin, & Dennis, 2004) that apply well to research with younger children, and it incorporates the self-monitoring of emotion appraisals and emotion-related reactions that are more typical of older children, adolescents, and adults. However, it is a highly inclusive formulation. Eisenberg, Spinrad and Eggum (2010) focus more, for example, on the voluntary

management of emotional states and its association with individual differences in temperamental qualities like effortful control. In this view, emotion-related self-regulation can be relatively deliberate or automatic, but it is initiated by the individual rather than by others. Thus, the portrayal of emotion regulation as a socially regulated extrinsic network of influences, an internal process involving the intentional control of emotion expression, or a relatively automatic or implicit process remains a point of definitional variability as well as a focus of developmental analysis (see, for example, Gross & Thompson, 2007; Zimmermann, 1999).

Notwithstanding these definitional issues, there is wide agreement that the development of emotion regulation proceeds from regulation by others to increasing self-regulation as children mature (Saarni, 1999). This developmental transition occurs as children’s representations of emotion and their situational appraisals become more sophisticated, brain maturation fosters the growth of executive functions and other self-regulatory capacities, socialization processes increasingly support and reward children’s emotional self-control and children’s emotion goals increasingly incorporate cultural values concerning feelings and their expression. Developmental and individual differences in emotional reactivity and self-regulation also derive from developing neurobiology and how it is influenced by the experience of stress and the social buffering of stress through caregiver support. Thus biological, relational, and representational processes converge in guiding the growth of emotion regulation and individual differences in self-regulation (Thompson, in press a, b). This results not only in well-studied changes in children’s use of strategies of emotional self-control, but also in less well-studied changes in other characteristics of

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emotional responding that also reflect these developmental influences. These include, for example, increasing flexibility in managing emotional challenges, the ability to balance and prioritize different emotional goals in social situations, proactive efforts to mobilize emotions in pursuit of one's goals, and growing context-specificity in the goals and strategies underlying emotion management (Diamond & Aspinwall, 2003). Studies on short term and long-term effectiveness and goal relevance of emotion regulation strategies will enhance further our knowledge of developmental changes and their possible causes across the life span (Webb, Miles & Sheeran, 2012; Charles, 2010). These elements of the development of emotion regulation constitute an important agenda for future research. It is apparent, however, that emotion regulation is a biologically dynamic, experience-driven developmental process that fully integrates processes traditionally conceived as 'nature' and 'nurture' (Sameroff, 2010) and that nonlinear growth processes may be important in understanding changes in the self-management of emotion across the life course.

The collection of papers for this special section are intended to reflect some of these emerging new directions for research on the development of emotion regulation across the life span. Considerable research on stress neurobiology using animals and humans indicates that the social buffering of stress, primarily by the quality of parental care, is important to developing biological and behavioral coping. In their contribution, Gottfried Spangler and Peter Zimmermann (this issue) extend an important series of investigations into the association of the security of attachment with children's cortisol responding to stressful circumstances. In the current paper, their longitudinal analysis is extended to early adolescence, and they find that differences in the security of attachment and attachment disorganization at 12 months, as well as current maternal support, are predictive of adolescents' adrenocortical response in experimental situations designed to elicit fear and anger. Noteworthy is that they use multiple behavioral indices of emotional responding in addition to adrenocortical responses in their assessments of adolescents' reactions to the experimental probes.

In a related vein, Amanda Guyer and her colleagues (this issue) focus on adolescent peer relationships in their analysis of responding to the Chatroom Task, an experimental procedure that this research group has profitably used in neuroimaging studies of adolescent emotion and emotion regulation. In the current study the authors build on the neuroscience results to examine convergent behavioral responses to the task and report informative age and gender differences in how adolescents engage in antecedent emotion regulation in preparation for social evaluation, and later self-regulation as they respond to peers' appraisals of them. When viewed in the context of developmental changes in brain regions relevant to social reward and executive function, these results illustrate the complexity of emotion regulation in peer contexts during an important developmental period.

The family context of developing emotion regulation is important as a central context for direct and indirect emotion socialization and coaching in a relational context of support (Zimmermann, Maier, Winter, & Grossmann, 2001). In the contribution that follows, Sara Meyer and her colleagues (this issue) found support for path models indicating that mothers' emotion-related socialization strategies mediated between their own beliefs about emotion and the emotion regulation of their preschool children. Two aspects of maternal emotion-related beliefs – the importance of attending to and accepting one's feelings, and the value of emotion self-regulation – were particularly important. These findings are

consistent with the theoretical views of parental emotion coaching proposed by Gottman and his colleagues (Gottman, Katz, & Hooven, 1997) and suggest the value of exploring further multi-generational emotion representations within the family.

Sara Waters and Ross Thompson (this issue) drilled deeper into children's emotion representations in their study of children's perceptions of the effectiveness of alternative strategies for regulating anger and sadness. Developmental researchers have long been interested in young children's understanding of emotion regulation strategies because of evidence that they predict children's self-regulatory behavior (see Cole, Dennis, Smith-Simon & Cohen, 2009). Waters and Thompson (this issue) found that 6- and 9-year-olds evaluated certain strategies as more effective for managing sadness or anger, and that children of both age groups comparably appraised cognitively sophisticated emotion regulatory strategies as effective, despite developmental differences in children's use of mentalistic strategies on their own. They also found that boys and girls differentially appraise emotion-focused strategies in a similar manner to adults, suggesting that these gender differences may have early origins.

The final two papers extend the study of emotion regulation to adulthood. With a large cross-sectional adolescent and adult sample, Peter Zimmermann and Alexandra Iwanski (this issue) studied age-related differences in how respondents report the use of several emotion regulation strategies in situations designed to evoke fear, anger or sadness in them. They found, as Waters and Thompson did, that emotion regulation strategies were endorsed in an emotion-specific manner and that there were also important developmental differences in strategy endorsement. Because their sample ranged from 11-year-old preadolescents to adults in their 50s, these developmental differences highlight some of the psychological changes underlying how people selectively manage their emotions with increasing age.

In the final paper, Tammy English and Laura Carstensen (this issue) elucidate these developmental processes in adulthood. Drawing on socioemotional selectivity theory (Carstensen, 2006), they studied participants ranging in age from 18 to 94 in a longitudinal design to examine changes in the size and composition of social networks as predictors of emotional well-being. Using growth curve analyses they found that with increasing age in adulthood, social networks declined in size but not in quality: adults lost peripheral partners but retained close relationships that were more likely to provide positive emotional support. These findings are the latest to demonstrate the emotional self-regulatory functions of the intentional changes in social relations in later life that help to decrease stress and increase social support and, in so doing, emotional satisfactions. In her commentary, Pamela Cole (this issue) emphasizes the relevance of a life-span perspective on emotion regulation differentiated for discrete emotions and suggests future research directions focusing more on the cultural fit and the temporal dynamics of emotion regulation.

Developmental research on emotion regulation draws together biological, relational and representational influences on emotional behavior and its management and provides a broader perspective on psychological development through the lens of affect. We hope that this special section highlights some of the innovative and interesting new directions of this field and provokes further inquiry into this important developmental process.

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