Emotion–cognition integration is a rapidly evolving area of research in psychology that has implications for basic and applied approaches to the study of development. Our aim in this volume is to highlight the different ways in which developmental science is conceptualizing this integration with respect to behavior and biology and to extend these ideas to better understand children’s functioning in real-world settings. By no means do we consider this volume to be the definitive treatment of the interrelations between emotion and cognition in childhood, however. We hope that its chapters will motivate theoretical and empirical efforts to investigate this significant area of work. We strive to further encourage this work by posing the following questions and offering tentative suggestions for future research designed to answer them.

WHAT CONCEPTUAL FRAMEWORKS GUIDE THE STUDY OF THE INTEGRATION OF EMOTION AND COGNITION?

Although all of the authors contributing to this volume endorse the value of studying emotion and cognition in a more integrated fashion, there
are different ways of thinking about how best to organize and study these processes over time. For example, a framework that emphasizes the regulatory or control dimension of these processes highlights the need to identify common psychological and biological processes that link emotion and cognition (Bell & Deater-Deckard, 2007). A self-regulatory framework has the advantage of isolating one particular function of emotion and cognition, but what may be lost is an appreciation of the other functions that emotion and cognition may play in children’s adaptation.

Children acquire ways of thinking about their world in both emotional and cognitive terms. Emotion understanding is associated with recognizing and labeling the emotions of self and others, leading to appropriate emotion communication and enhancing social competence (Denham et al., 2003). Cognitive understanding allows children to appreciate the mental states of self and others and view situations from different perspectives, also leading to more effective communication with others (Aastington, 2003). Clearly, both emotion control and understanding, along with cognitive control and understanding, appear to be critical for early socioemotional competence and academic readiness (Leerkes, Paradise, O’Brien, Calkins, & Lange, 2008). Thus, there is a need to further explore and organize potential component processes associated with emotion and cognition integration.

Another approach to conceptualizing emotion and cognitive processes emphasizes their organization at a neural level (Lewis, 2005; Thompson, Lewis, & Calkins, 2008). Neural models note the deficiency of thinking about a purely emotional or purely cognitive brain, emphasizing the neural connections that make parsing such activity a challenge. A further step in this direction is the characterization of the social brain, which implies that the human brain is specialized for the processing of social information and that parts of the brain communicate different types of information in the service of integrated functioning. Clearly, different ways of thinking about how to frame emotion and cognition integration are important to consider as they clearly influence how these processes are measured and studied across time.

HOW DO EMOTION AND COGNITION INFLUENCE ONE ANOTHER ACROSS DEVELOPMENT?

Much research has been devoted to the study of emotional development and cognitive development in children, but how separable are emotion and cognition in the study of development? We propose that it is important to consider the simultaneous development of emotion and cognitive processes and their mutual influences. Moreover, an extension of the conceptual framework for studying emotion and cognition integration is how to think about—and measure—their integration or mutual influence (Greer, 2004). Traditional approaches focus on top-down versus bottom-up perspec-
tives. There may or may not be a value in placing a primacy of one process over the other. We note that developmental and neural considerations can help to resolve this issue. More data are needed, however, that can speak to the influence of one process over the other across time.

There are at least two time courses that must be considered: the in-the-moment relations between emotion and cognition, and the longer-term relations that evolve as a function of growth in each domain. This latter issue raises important questions about differential development and periods of vulnerability that may be a function of greater skill in one area than another (Steinberg, 2005). Adding to this complexity is the idea that the degree of mutual influence may vary as a function of developmental period. Many important ideas about development have been raised that cannot be easily addressed without more longitudinal studies that measure these processes over time.

WHAT IS THE ROLE OF CONTEXT IN EMERGING EMOTION–COGNITION RELATIONS?

Context is a powerful contributor to both emotional and cognitive development. Our understanding of the ways in which first relationships shape children’s understanding of their social and physical worlds has changed dramatically, in part as a function of the appreciation of the interrelations of emotion and cognition. The world to which the social brain is exposed provides many opportunities for emotion–cognition interactions to be engaged, as most ostensibly social tasks require language and specific cognitive skills such as understanding of others, monitoring behavior, controlling affect, and attention. Real-world tasks in the home, school, and peer environment have both emotionally and motivationally significant elements. More work on the moderational role of various important contexts is needed before one can really appreciate the nature of contextual effects on emotion–cognition integration.

WHAT ARE THE IMPLICATIONS OF DEVELOPING EMOTION–COGNITION INTEGRATION FOR INTERVENTION RESEARCH?

Understanding emotion and cognition integrative processes in typically developing children is critical for understanding the development of extremes in self-regulation and associated complexities in emotional and cognitive processing (Cicchetti & Tsutsui, 2005). Thus, research on the integration of cognition and emotion, as well as possible atypical development, has implications for clinical and education research (Blair, 2002). As we noted in the introduction to this volume, most of the current work on predictors of men-
tal health and school performance has focused on specific emotion or cogni-
tive predictors of particular clinical disorders or failing academic skills. There
are indications, however, that children's school performance problems and
psychopathology may provide greater cause for concern if there are difficul-
ties in both emotion and cognitive processing (e.g., Pennington & Ozonoff,
1996). Thus, the merging of cognition and emotion research in intervention
science has the potential for critical impact on treatment outcomes.

The contributors to this unique volume have focused exclusively on
emotion–cognition relations in childhood. They have examined basic behav-
ioral, neuropsychological and genetic, and applied areas of study, as well
as the integration of these three areas, in studying the emergence of emotion–cognition relations. Each chapter author is conducting highly inno-
vative, cutting-edge work. Nevertheless, work remains to be done at both
a conceptual level and in terms of empirical efforts to study these dynamic
and mutually influential processes. We are eager to see how the work of these
researchers influences the evolving field of emotion and cognition integra-
tion in child development.

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