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PREVIEW

**UNIVERSITY OF CALIFORNIA**

**Los Angeles**

**Emerging emotion regulation: Describing behavioral strategies  
children and their caregivers use during emotionally challenging situations**

**A dissertation submitted in partial satisfaction of the  
Requirements for the degree Doctor of Philosophy  
in Education**

**by**

**Holli Ann Tonyan**

**2001**

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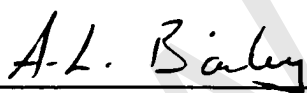
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## **ABSTRACT OF THE DISSERTATION**

**Emerging emotion regulation: Describing behavioral strategies  
children and their caregivers use during emotionally challenging situations**

by

**Holli Ann Tonyan**

**Doctor of Philosophy in Education**

**University of California, Los Angeles, 2001**

**Professor Carollee Howes, Chair**

**Emotion regulation has been the topic of increasing numbers of research projects in the past decade, but little research has described how children and their caregivers manage emotional challenges in their everyday lives. This dissertation focused on three dimensions of mother-infant interaction around emotion regulation: (a) behavioral strategies children used to regulate their emotions in their everyday lives; (b) changes in strategy use during toddlerhood, a period of time thought to involve increasing emotional self-regulation; and (c) strategy use related to caregiver support and caregiver-child relationship quality.**

To accomplish these goals, videotapes of children and their caregivers were first analyzed to identify episodes of emotionally challenging situations (i.e., the time from the event preceding or causing distress until the child could actively engage with the environment displaying no signs of distress). Rating scales were developed, based on attachment theory, to capture variation in the degree to which mothers and their children interacted around the child's distress and the roles that both mothers and their children played in the child's eventual ability to re-engage with the environment.

Once ratings had been developed and applied, associations between children's strategies, mothers' strategies, and the roles that children's and their mothers played in episode resolutions were explored. At 14 months, children's strategies were neither highly inter-correlated nor highly correlated with mothers' strategies. By 24 months, however, children's strategies were increasingly interrelated with mothers' strategies. Mothers' strategies were highly interrelated when their children were both 14- and 24-months old.

A model to explore whether the quality of the attachment relationship influenced children's strategies was tested using path analysis. The model was tested for 14 month olds. Because several children experienced no emotionally challenging episodes at 24 months, however, the sample size was too small to explore the association between quality of attachment and emotion regulation strategies at this later age. Path analyses suggested that the quality of the attachment relationship had only an indirect effect on children's ability to jointly resolve episodes by first influencing the mothers' strategies which, in turn, influenced joint resolutions.

## Introduction

*Imagine a typical morning for Carla, a two-year-old attending preschool. She attempts to listen to her favorite book being read in the circle although she is very sad to say goodbye to her father. By the time she goes to play on the yard, Carla feels better, but then her friend, Latisha, who is whizzing along on her tricycle accidentally slams into her. Carla stands on the playground, overwhelmed by her sadness...*

The ability to modulate negative emotions to engage the environment in an emotionally challenging situation—what researchers are beginning to call emotion regulation—underlies countless everyday accomplishments. What Carla does with her sadness can make a big difference in her day and in the classroom experience for everyone present. Without knowing how to regulate emotions, children can be too overwhelmed to engage with their friends, teachers or classroom activities or they develop behavioral problems that mask their emotion regulation incompetence. Despite the fact that researchers have increasingly written about emotion regulation in the past two decades, little research has described the strategies children actually use to regulate their emotions or how children's use of those strategies changes over time. Much of our existing knowledge stems from either (a) summary studies that relate emotion regulation to other aspects of development including peer relations or behavior problems and rely on informants' ratings of a child's ability to regulate emotions (e.g., Eisenberg, et al., 1993); (b) studies that measure minute changes in emotional expression without examining the larger behaviors those expressions influence (Cole., Zahn-Waxler, Fox, & Usher, 1996); or (c) studies that examine specific kinds of behavioral strategies children display within

**standardized laboratory settings without examining how those behaviors generalize to everyday circumstances. This dissertation addresses the following goals: (1) to describe behavioral strategies children use to regulate their emotions in their everyday lives; (2) to explore changes in strategy use during toddlerhood, a period of time thought to involve increasing emotional self-regulation; (3) to examine how strategy use relates to caregiver support and caregiver-child relationship quality; and (4) to explore the cultural meaning ascribed to these strategies.**

**Perhaps because psychologists have long been interested in understanding the intersection of affect, behavior, and communication (Greenberg, Kusche, & Speltz, 1991)—systems converging within the construct of emotion regulation—researchers from many different theoretical frameworks have studied emotion regulation. As a result, researchers have defined emotion regulation in many ways (Thompson, 1994), with several themes emerging from the variety of definitions. Emotion regulation: (a) involves multiple systems, including autonomic responses, affective experience and expression, cognition, and communication; (b) includes both interpersonal and intrapsychic components, but is fundamentally social; (c) involves a temporal process; and (d) incorporates both individual tendencies and contextual influences. This proposed analysis centers on the development of behavioral and interpersonal aspects of emotion regulation. Furthermore, I narrow my focus by examining negative emotions in particular because these behaviors are thought to be a prerequisite for developing autonomy (Sroufe, 1995). The focus of the proposed study is, therefore, on “emotion regulation strategies,” or behaviors that a child exhibits in relation to a negative emotion, and “caregiver support**



strategies,” or the behaviors a caregiver exhibits in relation to his/her child’s negative emotion or requests for assistance within a natural setting.

I draw from attachment theory to start my interpretation, because the behavior attachment theorists use to identify the quality of caregiver-infant relationships can be reinterpreted as effective dyadic emotion regulation strategies. According to research based out of attachment theory, infants who have high quality maternal relationships, often labeled securely attached, can effectively request and receive comfort from their mothers in times of stress. Children who are insecurely attached to their mothers typically behave in ways that fit one of two main patterns: they either request comfort but never seem to be comforted (e.g., infant cries and reaches up to mom, but when picked up squirms to be let down, and then cries to be picked up again) or they do not display their distress (e.g., a child who was playing quite actively with several toys before her mother left, gets quiet while her mother is gone; when her mother re-enters neither smiles in greeting nor cries to show her distress and simply continues to focus on one truck she had been playing with). Although not central to attachment theory analyses, attachment assessments define high quality, or “secure,” relationships according to the caregiver-infant dyad’s ability to recover from the difficult emotions surrounding separations (Ainsworth, Blehar, Waters, & Wall, 1978). From this perspective, what distinguishes secure from insecure dyads is their effectiveness in dyadic emotion regulation.

Although dyadic emotion regulation can be said to vary by attachment classification, it remains somewhat independent of attachment in at least two ways. First, how individuals develop the ability to regulate their own emotions is likely to be

somewhat independent of these broad categories of attachment. The children's own ability to initiate and maintain emotion regulation can vary a great deal within and across the three broad categories of attachment. All securely attached children can be described as able to deal with the difficult emotions of separation with the effective help of their mothers, but some rely more heavily on their mother's assistance and comfort and some actually nonverbally request comfort (e.g., by reaching or walking over to the mother after a separation) while others simply signal their distress (e.g., by crying and turning to the mother). Although children who are insecurely attached to their mothers do not effectively receive comfort from their mothers, they differ in their ability to engage in strategies at all, they differ in whether they direct strategies toward objects versus their mothers, and they differ in whether the strategies they use are likely to be helpful in other contexts.

While attachment might be a strong force in emerging emotion regulation strategies, the development of self-initiated and self-directed emotion regulation can both inform our understanding of attachment relationships and our understanding of social development more broadly defined. Attachment has been defined as a particular system involving particular kinds of relationships, but emotion regulation is required in many contexts and in relation to many different kinds of people. In fact, most theorists defining ideal emotion regulation include the ability to respond flexibly and adaptively to changing circumstances as part of what differentiates emotion regulation from dysregulation (Shields & Cicchetti, 1997)—a distinction that underlines the importance

**of understanding of how children regulate their emotions independently and with assistance.**

**One underlying theme across literatures relevant to the main goals of my study involves the possible cultural bias underlying knowledge gleaned through studies sampling primarily Euro-American middle class families. A final goal that this research touches upon concerns potential cultural biases surrounding the study of emotion regulation and caregiver support strategies. For a variety of reasons, the participants whose actions were analyzed are Latino/a, poor and, often, recently immigrated. Therefore, I will refer to potential biases inherent in described approaches throughout my literature review.**

**The specific questions addressed in the present dissertation include both methodologically oriented and conceptually oriented questions. First, how can emotion regulation be studied within an attachment theory framework, using the dyad as the primary unit of analysis, while accounting for contextual and individual-level influences? Second, how do children's behaviors as related to distress become coordinated in relation to their own individual characteristics and their attachment figures? Third, are mothers' behaviors in the context of their children's distress related to their own characteristics, their children's characteristics, or the quality of their relationships with their children?**

## Literature Review

In the following sections I review current knowledge about behavioral strategies that children use as part of emotion regulation and the ways that caregivers support those emotion regulation strategies. Throughout each section, I refer to possible cultural biases. In the final section, I briefly review the importance of understanding cultural approaches to the phenomena examined in this study.

### *Emotion Regulation Strategies*

Researchers have begun to explore the behaviors that children engage in around emotional challenges. There is growing evidence that individual differences in emotion regulation become increasingly stable from infancy to preschool age and that the infants studied tend to progress through patterns of development. Below, I explore current knowledge of the behaviors children use to regulate their emotions.

### *Individual Differences across Contexts*

Researchers have identified stable individual differences in behavioral and attentional strategies that children, as young as four-years-old, use in emotion regulation (Eisenberg et al., 1993; Fabes et al., 1999). Eisenberg, Fabes and colleagues have conducted numerous studies indicating how the combination of behavioral and attentional strategies, as moderated by emotionality, are related to many different facets of socially competent behavior for preschoolers including adult-rated social competence (Eisenberg et al., 1993), peer-nominated popularity (Eisenberg et al., 1993), observed anger-related behavior (Eisenberg, Fabes, Nyman, & Bernzweig, 1994), adult-rated vicarious emotional responding (Eisenberg & Fabes, 1995), and observed peer interactions (Fabes

et al., 1999). Research in this vein also indicates that preschool-age behavioral and attentional strategies, again as moderated by emotionality, predict social functioning into early elementary school (Eisenberg et al., 1995). Furthermore, Eisenberg and Fabes' complete model, including emotion regulation, emotionality, and ego-resilience, predicts social functioning well into elementary school (for a review, see Eisenberg & Fabes, 1999).

Eisenberg, Fabes, and colleagues have demonstrated the ways that individual differences in emotion regulation are related to important aspects of social functioning; however research is beginning to examine individual differences in the actual strategies children display. Bridges and Grolnick examined how children's strategy use changed across variations of standardized laboratory situations among children between 12- and 24-months (L. Bridges, Grolnick, & Connell, 1997; L. J. Bridges & Grolnick, 1995). The researchers indexed emotion regulation with behaviors like active engagement with the environment (with or without adult), passive engagement with the environment, symbolic self-soothing, physical self-soothing, other-directed strategies, and focus on the delay object (L. Bridges et al., 1997; Wendy S. Grolnick, Bridges, & Connell, 1996). In these studies, researchers coded children's behavior for the above mentioned strategies as the children faced different laboratory tasks designed to elicit negative emotions: typically, a child either waited for an enticing toy or negotiated separation from his or her mother and, when present, the mother was either given another task to keep her from actively engaging with the child or she was free to engage with the child.

Overall, Grolnick, Bridges and colleagues' research indicates that the emotion regulation strategies infants and toddlers engaged in varied considerably across contexts (L. Bridges et al., 1997; L. J. Bridges & Grolnick, 1995; Wendy S. Grolnick et al., 1996; W. S. Grolnick, McMenamy, & Kurowski, 1999). The most frequently used strategy across studies and across contexts was active engagement with the environment. These studies indicated that children were more able to engage with the environment when their parents were present and were more likely to focus on the delay object when their parents were busy completing a questionnaire. These authors found little evidence for stability in individual differences across contexts when examining either the emotion regulation strategies used.

Bridges & Grolnick's research highlights questions about how to define an appropriate outcome when researching emotion regulation. Bridges, Grolnick, and Connell (1997) used emotional expression as an outcome and presented their findings as though expressing less negative emotion was desired. They found that active engagement with the environment was negatively associated with negative affect expressions and they interpreted this finding to indicate that children who were less upset were better able to engage with the environment. In fact, their research cannot speak to this interpretation because they did not use sequential analysis and so they did not test whether children first calmed down and then engaged with the environment or whether they engaged with the environment which helped them calm down. Assuming that their results could be upheld in sequential analysis, they still could not speak to questions about the appropriateness of using emotional expression as an outcome. For example, in our North American Anglo

culture where caregiver-infant interaction typically takes place across a distance (Whiting & Edwards, 1988), expressing a great deal of negative emotion might help to elicit assistance from parents who are otherwise engaged in other tasks.

In contrast to the relatively intense distress-provoking situations that Grolnick and Bridges examined, Parritz (1996) examined emotion regulation strategies as displayed within three contexts that were all designed to elicit mild wariness. In this study, the researcher introduced 12- and 18 month old children to a novel toy, a caged bunny, and a stranger, consecutively, and videotaped them interacting with their environment and their mothers. From videotapes of the infants in these situations, the researcher and her assistants coded behavioral and attentional strategies. They first determined that the behaviors recorded were indeed reactions to wariness by measuring inhibition and found that all infants displayed some wariness in relation to the stimuli. Although mothers were present during all situations, the authors attempted to minimize differences in the support provided to the children by (a) first maintaining a one-minute transition time during which mothers only looked at or smiled at their children and (b) requiring the mothers to select from a list of possible responses when they responded to their children.

Within these mildly stressful contexts, there is some evidence that children use strategies with increasing cross-context consistency from 12 to 18 months of age (Parritz, 1996). Across contexts, proximity/contact seeking and social referencing were positively and significantly associated among 12-month-old toddlers. This increasing coordination among social kinds of emotion-regulation behaviors are likely to indicate emerging individual differences in person-level characteristics like sociability and an increasingly

coordinated attachment relationship that includes emotion-regulation at a dyadic level. Similarly, this research provided evidence for cross-context positive associations for six of the coping behaviors that 18-month-old toddlers displayed including whining/demand vocalization, social referencing, attempts to directly control the mother's behavior, and proximity/contact seeking as well as self-comfort and information seeking, two behaviors which indicated the highest cross-context correlations. Below, I will more thoroughly explore the implications of the developmental trends seen in the Parritz study.

### *Development and Emotion Regulation Strategies*

The above-described findings provide empirical evidence that researchers can identify individual differences in emotion regulation and that these individual differences are likely to have long-term implications for social behavior within Euro-American culture, but do little to clarify how emotion regulation develops. In the following section, I explore developmental changes in strategy use that researchers have identified at different ages.

Children as young as 6-months-old seem capable of regulating their attention and physically self-soothing in challenging circumstances. Furthermore, they continue to use these strategies through 12 months of age. In one study, 6-month-old infants who were interacting with strangers in a laboratory setting regulated their emotional arousal primarily through gaze aversion (i.e., looking up or down while the stranger was attempting to engage them), avoidance (i.e., turning or looking away from the cause of their distress), and/or self-distraction with a neutral object (Mangelsdorf, Shapiro, & Marzolf, 1995). Furthermore, Parritz found that in mildly challenging situations 12-