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Maternal and paternal emotional contributions to children's distress tolerance: Relations to child depressive symptoms

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ABSTRACT

In recent years, empirical studies have shown that the inability to tolerate distress is associated with a wide range of negative outcomes including eating addiction, drug abuse, alcohol use, and antisocial behavior in adults. However, few studies have examined family correlates of this ability in children. Also, past literature on child emotional competencies has mainly focused on documenting the linkages between mother and child and has neglected the role of fathers.

Children (N = 54, M age = 10.15 years, SD = 1.02; 55.6% males) and their parents participated. Parents reported on their emotion regulation strategies and children reported on their depressive symptoms. Distress tolerance (DT) was assessed using the computerized distress tolerance task, the Behavioral Indicator of Resiliency to Distress. Children who were able to complete the BIRD had lower levels of depression. Analyses examining relations among father and mother emotion regulation and children's DT showed children's DT is more closely related to their mothers' than fathers' emotion regulation styles. These findings suggest that DT is an important construct in understanding children's psychopathology, but also that maternal emotion regulation is associated with children's distress tolerance.

1. Introduction

In trying to understand the effects of negative emotions and stressful experiences on both psychological and physical health outcomes, individual characteristics have long been of great interest. In other words, researchers have argued that *how* a stressful event is experienced is just as important as whether the stressor occurred. This approach has tended to focus on the extent to which an individual is *able* to tolerate distress. An increasingly large body of work has identified distress tolerance (DT)—defined as the ability to persist in goal-directed activity while experiencing psychological distress (Lejeuz et al., 2003; Simons and Gaher, 2005), as an important individual difference variable. Differences in DT are associated with depression (Ekinci and Kural, 2017), illicit drug use (Daughters et al., 2005; Simons and Gaher, 2005; Zvolensky et al., 2009), dysregulated eating behaviors (Anestis et al., 2007), and behavioral problems (Daughters et al., 2009). Researchers have also argued that low distress tolerance is at the core of a number of clinical disorders (Leyro et al., 2010). For example, DT is associated with global posttraumatic stress symptom severity (Vujanovic et al., 2011) and schizophrenia patients have been found to have lower levels of DT as compared to controls (Nugent et al., 2014).

Despite its importance, the work on DT has focused almost exclusively on adults, and few studies have taken a developmental approach to investigate its relevance during childhood and the early adolescence years (Zvolensky et al., 2010; Daughters et al., 2009). Understanding DT during early adolescence is important because this period is marked by rapid physical and social changes that are critical to the development of emotion regulation and higher cognitive processing such as planning and self-control (Steinberg and Morris, 2001), as well as the emergence of psychopathology (Cicchetti and Rogosch, 2002). Despite the limited research examining DT in children, a few studies that have focused on youth have found that adolescents with low DT showed greater risk-taking propensity (MacPherson et al., 2010) and had higher levels of internalizing and externalizing symptoms (Cummings et al., 2013). DT during early adolescence has also been shown to be correlated with alcohol use and delinquent behavior (Daughters et al., 2009). In one of the few longitudinal studies on DT, Cummings followed adolescents over a 4-year period to investigate trajectories of DT over time, as well as its associations with behavioral problems. Results from the study suggest that DT was trait-like and stable over the course of adolescence. Moreover, DT was associated with changes in externalizing behaviors over time.

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While there is some evidence that DI is likely an important predictor of a wide variety of health outcomes even in adolescents, we know very little about factors that may be correlated with this ability. Understanding the correlates of DT would lay the foundation for potential treatment and interventions. To the best of our knowledge, only one study has examined the role of family and parenting influences, Daughter's and colleagues measured both family emotional climate as well as maternal distress tolerance in a sample of adolescents (Daughters, et al., 2014). Their findings suggest that consistent with both work suggesting the importance of genetics and family context; maternal DT was associated with DT in girls. While this paper was an important step in understanding family influences on DT, it was limited in that there was no data on fathers.

In the current study, we look at parents' emotion regulation as an important predictor of children's distress tolerance. Emotion regulation refers to strategies which individuals use to influence and modify the emotional experience (Gross, 1998). Research on the implications of emotion regulation for health and well-being has exploded in the past several decades. The dominant model of emotion regulation, developed by Gross and colleagues, focuses on two main strategies used by individuals to regulate their emotions, reappraisal and suppression. Reappraisal refers to changing one's thoughts about the emotion-eliciting event, to minimize the negative impact and suppression refer to minimizing and reducing the emotional experience, and expressive behavior after the emotion has already occurred. Of the two, reappraisal is considered to be more adaptive and associated with better outcomes (John and Gross, 2004). However, few studies on emotion regulation using this model has attempted to examine the extent to which parental use of these strategies to regulate their own emotion, may have an impact on children's social-emotional outcomes. This is particularly surprisingly as there is no scarce interest in the family correlates of emotional development in children.

Based on the developmental research on children's emotion socialization and the adult literature on the effects of these emotion regulation strategies, we would expect that parents who are able to reappraise their emotions are more likely to have children who are better able to tolerate distress, because reappraisal is associated with lesser negative emotion, greater positive emotion, and better interpersonal functioning (Gross and John, 2003). In the context of family conflicts, is it is likely that these parents are modeling effective emotion regulation strategies and in doing so have children who are less reactive. These parents may also help children to reappraise by discussing strategies for reinterpretation. These skills would lead to higher levels of distress tolerance. On the other hand, we would expect that suppression of emotion would lead to lower levels of distress tolerance as suppression is associated with greater negative emotion (Campbell-Sills et al., 2006) and increased sympathetic activation of the cardiovascular system (Gross and Levenson, 1997). At the same time, however, because suppression by its nature is about hiding one's emotion, their effects may be less likely to be socially transmitted from parent to child.

The lack of research on parental emotion regulation and children's DT is problematic as dominant models of both learning in general, and socialization of emotion regulation have emphasized observation and modeling as an important pathway by which children acquire behaviors (Palincsar, 1998; Morris et al., 2007). Moreover, in emotion regulation studies, paternal role has been relatively neglected (Ahnert et al., 2004). The few studies that have examined maternal and paternal roles separately have found that each parent contributes differently to child emotion regulation development (Cassano et al., 2007). Fathers, for example, are more likely to minimize children's negative emotions, while mothers are more likely to encourage emotion expression and the use of problem-focused strategies. In general, mothers also report being more engaged in children's emotional lives (Klimes-Dougan et al., 2007).

In the current study, we investigate mother and father's emotion regulation strategies and their effects on children's level of DT. We also examine relations between DT and children's depression. The purpose of the current study is twofold. First, we assess associations between a behavioral measure of distress tolerance and children's depression levels. Next, we examine relations among mother and father emotion regulation and child distress tolerance. To add to the literature, we focus on looking at depression in during childhood. Evidence suggests that depression can begin early in life (Hankin et al., 2015) and yet most studies of DT have ignored this population. We hypothesized that children scoring higher on levels of distress tolerance would have lower levels of depression and that in comparing maternal and paternal emotion regulation strategies, we hypothesized that maternal emotion regulation strategies (specifically reappraisal) would be associated with child distress tolerance. Because of the lack of research on fathers' emotion regulation and children's distress tolerance, our analyses for fathers are exploratory.

2. Methods

2.1. Participants

Participants were enrolled in the study in 2014. Families were from a range of socioeconomic backgrounds. (Details of family income are provided in the demographics section of 2.3). Children and their parents participated in the study. Parents were told that participation was voluntary and that their children would be asked to engage in some mildly frustrating task, playing a difficult video game. Children participated with their parents' consent. To be included in the study, participants must be within 8–12 years of age, and not have a parent-reported physical condition that would interfere with performing the tasks or a psychiatric diagnosis. Fifty four children and their parents participated. Potential participants were recruited from one public school.

2.2. Procedure

Researchers visited the school and explained the purpose of research. Parents who agreed to take part in the research signed the consent form and children provided assent. Parents were asked to fill out the Emotion Regulation Questionnaire. During this time the child completed the computerized distress tolerance task (BIRD) on a laptop computer. After the distress tolerance task, the child was asked to complete a self-report questionnaire on his/her own depression. The assessments for the child and his/her parents were separately carried out in a different private room. The length of time to complete the task and the questionnaires were approximately 35 min. The Institutional Review Board at Boston University reviewed and approved the study.

2.3. Measures

2.3.1. Demographics

Parents (mothers: *M* age = 41.65 years, *SD* = 3.73; fathers: *M* age = 44.0 years, *SD* = 4.24) and their children (*M* age = 10.15 years, *SD* = 1.02; 55.6% male) reported on their own education and income. Parental education was scored as 1 = less than high school, 2 = high school diploma, 3 = bachelor's degree, 4 = Master's degree, and 5 = doctoral degree. The majority of mothers (81%) and fathers (88%) had at least a bachelor's degree. Family income was reported and scored in the following manner: 1 = less than $10,000, 2 = $30,000, 3 = $60,000, 4 = $90,000 and 5 = above $90,000. The average family income score for our sample was 3.85. Half of the families had household incomes above $90,000.

2.3.2. Emotion regulation strategies

The Emotion Regulation Questionnaire (ERQ; Gross and John, 2003), a 10-item self-report questionnaire, was used to measure parents' emotion regulation abilities. This measure asked parents to rate