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Specificity of parental bonding and rumination in depressive and anxious emotional distress

Christina L. Williams *, Elisabeth J. Harfmann, Rick E. Ingram, Kelsey E. Hagan, Nicole M. Kramer

University of Kansas, United States

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ABSTRACT

We examined how different dimensions of rumination may mediate the impact of parental bonding (lack of care and overprotectiveness) on negative emotional symptomatology (anxiety and depression). Survey data from participants were analyzed using structural equation modeling. Results indicated that brooding rumination fully mediated the relationship between maternal care and depressive and anxious symptomatology. These findings suggest that to the extent that maternal caregivers are low in warmth and support, offspring are more likely to develop a brooding style of ruminative thinking associated with heightened emotional distress. This research supports the growing body of evidence suggesting that cognitive variables form a pathway between troublesome parent/child interactions and psychopathology.

1. Specificity of parental bonding and rumination in depressive and anxious emotional distress

Researchers have identified a number of variables that are linked to the experience of emotional dysfunction and risk for psychopathology. For example, numerous studies have examined the role of parenting variables on the cognitive structures associated with risk (for a review, see Ingram, 2003). Healthy bonding between parents and children is essential for effective functioning, but data show that disruptions in the bonding process are linked to a variety of disturbances in adult functioning. In a recent review, for example, Lima, Mello, and de Jesus Mari (2010) found that neglect, parental control, and intrusiveness in early childhood may be risk factors for the development of depressive and anxious symptoms in adulthood. These findings coincide with an earlier review which found that rejection and control were related to later anxiety and depression (Rapee, 1997). Clearly, parenting behaviors play an important role in emotional distress, but just as clearly, they do not account for all of the variance in this distress.

Although parents may potentiate vulnerability to emotional dysfunction in a number of ways, of particular interest to many researchers is how parental behaviors may be linked to dysfunctional cognition in their children. Several theories spanning diverse conceptual origins suggest that interactions with caregivers during developmentally-sensitive times may provide the basis for negative information processing structures (Ingram, 2003). For example, both attachment theory (Bowlby, 1980) and object relations theory (Westin, 1991) suggest that increased risk for anxiety and depression in adulthood is mediated by cognitive and affective structures that begin to develop in childhood. Most notably, Beck's (1967) model suggests that cognitive vulnerability is embodied in maladaptive schemas that emerge early in life in response to stressful experiences. These models embrace diathesis-stress perspectives to explain the onset of symptoms; in particular, these negative cognitive structures are argued to be "latent but reactive" (Segal, 1988), and once triggered by the experience of stress, perpetuate a pattern of negatively biased self-referent thinking that spirals into depressive symptoms.

Empirical support for such models has been substantial, both for the role of cognitive processes and for the role of parental behaviors in the creation of these processes. For instance, a number of studies have examined general cognitive style as a mediator between the parent–child interaction and psychopathology. McGinn, Cukor, and Sanderson (2005) found that the combination of low care and overprotection in mothers was associated with later development of anxiety and depression and this association was mediated by dysfunctional cognition. Similarly, Alloy et al. (2001) found that cognitive risk may be linked to several social learning mechanisms in parent–child interactions. These processes include modeling of parents' negative cognitive styles, negative inferential feedback from parents regarding the causes and consequences of stressful events in the child's life, and negative parenting practices. Alloy et al. also found that low parental

* Corresponding author at: Department of Psychology, University of Kansas, Lawrence, KS 66044, United States.
E-mail address: clwilliams@ku.edu (C.L. Williams).

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warmth was associated with greater cognitive vulnerability and was predictive of future depressive episodes.

Research thus shows that caregiver–child interactions may play a role in the creation of cognitive vulnerability, particularly in regard to characteristic ways of interpreting and remembering negative events. One cognitive process that may play a role in vulnerability to the perpetuation of emotionally-charged states is the construct of rumination. Indeed, results from prospective studies support the role of rumination in maintaining negative mood (for a review, see Watkins, 2008). Moreover, rumination has been linked to the onset of depressive episodes and predicts depression severity (Just & Alloy, 1997). These findings have led researchers to conclude that rumination may be an important cognitive vulnerability factor for emotional distress.

Rumination has been defined in several ways, but a common definition reflects the tendency to dwell on the causes and implications of sad feelings (Nolen-Hoeksema, 1991). Although rumination is frequently thought of as a unitary construct, there are critical distinctions in the focus of rumination. In particular, several researchers have suggested differences between ruminative *reflection* and ruminative *brooding* (Treynor, Gonzalez, & Nolen-Hoeksema, 2003). Whereas reflection is characterized as purposeful cognitive problem-solving aimed at alleviating negative emotion, brooding is seen as a preoccupation with one's current emotional state and the circumstances leading to that state. Research has shown that brooding is associated with exacerbated depressive symptoms and is related to risk for depression (Whitmer & Gotlib, 2011). Brooding may therefore be the more emotionally corrosive component of rumination.

Just as it is important to differentiate between ruminative brooding and reflection, it is important to highlight distinctions among parental variables that may provide clues about the origins of cognitive vulnerability processes. For example, although parenting encompasses a number of behaviors, behaviors that reflect a lack of care (e.g., lack of warmth), or behaviors reflecting overprotection (e.g., intrusiveness) have been linked to subsequent cognitive vulnerability and emotional distress (Ingram, Overbey, & Fortier, 2001). A similarly important distinction is between maternal and paternal bonding behavior; research finds that there may be important differences in how these variables are related to cognitive risk processes. For instance, Ingram and Ritter (2000) investigated attention allocation as a cognitive link between disruptions in level of parental care and vulnerability to depression. They found that depression vulnerable individuals diverted attention to negative stimuli when placed in a negative mood state. Further, diversion of attention was mediated by level of maternal care; lower levels of reported maternal care were associated with greater attention to negatively-toned stimuli while in a sad mood. Similarly, Ingram et al. (2001) found that, even in the absence of psychopathology, lower levels of maternal care were associated with more negative and less positive self-referential thought, both of which may reflect risk factors for emotional dysfunction.

In sum, research has begun to clarify some of the links between problematic cognition and vulnerability, and a number of studies have shown that parenting variables are associated with the origins of this cognition. Rumination, particularly brooding, has been implicated in the experience of negative emotion, but it is unclear whether there are parental correlates of this process, and if these correlates are associated with emotional distress. Accordingly, the purpose of this study was to examine the links between parenting, rumination, and negative emotional symptomatology. Although the construct of rumination was broadly examined, we were particularly interested in the possible link between the brooding dimension of rumination, parental levels of care and protection, and affective symptoms. In order to answer these questions, measures of parental care and overprotection, rumination, and depressive and anxiety symptomatology were administered and confirmatory factor analyses and structural equation modeling were used to examine whether rumination mediated the effects of disrupted levels of care and protection on depressive and anxious symptoms.

2. Method

2.1. Participants and procedure

Participants were 494 undergraduate students (273 females, 221 males) from an introductory to psychology class who participated in partial fulfillment of course credit. The mean age of the subjects was 19.19 years. The ethnic backgrounds of the group were 82% Caucasian, 9% Asian, 5% Hispanic, 3% African-American, and 1% other. Data were collected using an online format that assessed for education level, gender, age, ethnicity, rumination style, parental bonding, and depressive and anxious symptoms. The questionnaires were presented in random order.

2.2. Measures

2.2.1. Parental bonding

Participants completed the Parental Bonding Instrument (PBI; Parker, Tupling, & Brown, 1979) to assess the reported parental behaviors. The PBI is a 25-item self-report questionnaire that uses a 4-point scale to assess parental attitudes and behaviors during the participants' first 16 years. Recall of maternal and paternal behavior is measured separately. Parenting style is determined by the scores on each subscale: Caring (12 items) and Protection (13 items). Total scores for Caring range from 0 to 48, and scores for Protection ranges from 0 to 52, with higher scores indicating greater care or protection, respectively.

The PBI is the most consistently used measure of parenting style in the literature (Enns, Cox, & Clara, 2002) and has been shown to have adequate reliability and validity in a number of contexts (Parker, 1989). For instance, PBI scores correspond to actual parental behaviors and to parents' own reports of their behavior (Parker, 1981, 1984). Additionally, the PBI has demonstrated stability over a 20-year period, with mood state and life experience having little effect on stability (Wilhelm, Niven, Parker, & Hadzi-Pavlovic, 2005). It is for these reasons that research has long suggested the validity of the PBI (e.g., Brewin, Andrews, & Gotlib, 1993; Gerlsma, Kramer, Scholing, & Emmelkamp, 1994).

2.2.2. Rumination

Rumination was assessed using the Response Style Questionnaire (RSQ; Nolen-Hoeksema, 1991). The RSQ is a 71-item self-report questionnaire that describes how people might respond to depressed mood. On a Likert-type scale ranging from 1 (never) to 4 (always), participants are asked to rate how often they think or do each item when sad or in a depressed mood. Total scores range from 71 to 284, with higher scores equaling greater ruminative response. The scale exhibits excellent internal consistency and adequate convergent and predictive validity (Nolen-Hoeksema, 1991). In this study we examined the reflective and brooding dimensions of rumination identified by Treynor et al. (2003).

2.2.3. Depression symptoms

The Beck Depression Inventory-II (BDI-II; Beck, Brown, & Steer, 1996) was used to assess current depressive symptoms. The BDI-II is a 21-item self-report questionnaire. Each item is answered on a 0–3 scale with total scores ranging from 0 to 63 with higher scores indicating greater depressive symptom severity. Research has indicated that test–retest reliability is sufficient, and that the BDI-II is valid (Beck et al., 1996).