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## EXAMINING INTERACTIONS BETWEEN NEGATIVE EMOTIONALITY AND EFFORTFUL CONTROL IN PREDICTING PREADOLESCENT ADJUSTMENT PROBLEMS

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**ABSTRACT:** This article was prepared based on the results of observations conducted in foreign countries. Interactions between reactive and regulatory dimensions of temperament may be particularly relevant to children's adjustment but are examined infrequently. This study investigated these interactions by examining effortful control as a moderator of the relations of fear and frustration reactivity to children's social competence, internalizing, and externalizing problems. Participants included 306 three-year-old children and their mothers. Children's effortful control was measured using observational measures, and reactivity was assessed with both observational and mother-reported measures. Mothers reported on children's adjustment.

**Keywords:** Temperament, Internalizing problems, Externalizing problems, Preadolescence, Executive control, Emotion regulation.

### INTRODUCTION

Children's temperament is often studied in relation to their adjustment. Individual differences in temperament predict children's risk for social-emotional problems through several mechanisms including increasing problems directly, through transactional relations with other risk factors, or by moderating or exacerbating the effects of other risk factors (Nigg, 2006; Rothbart & Bates, 2006). Although combinations of temperament characteristics, particularly the interaction between reactive and regulatory dimensions, have been hypothesized to be relevant to

children's adjustment, these interactions are rarely investigated (Rothbart & Bates, 2006). In this study, we examined the interactions between temperamental reactivity and regulation to predict social competence and adjustment problems of preschool children. Temperament is defined as biologically based individual differences in reactivity and self-regulation that remain relatively stable over time, but may be influenced by heredity, maturation, and contextual and socialization experiences (Rothbart, Ahadi, & Hershey, 1994). Reactivity refers to arousability of affect

and excitability of motor responses whereas self-regulation refers to processes that serve to alter this reactivity through mechanisms such as attentional focusing and inhibitory control (Rothbart & Derryberry, 1981). Both reactivity and regulation are important predictors of children's adjustment (e.g., Liew, Eisenberg, & Reiser, 2004; Muris & Ollendick, 2005). Examination of the interactions between the propensity for emotional reactivity and the ability to regulate this reactivity is important in understanding children's adjustment, as problem behaviors are associated with increased negative emotionality and uncontrolled behaviors (Eisenberg et al., 1996).

### *Negative Emotionality*

Negative emotionality, one aspect of reactivity, describes individual differences in children's predisposition to experience negative emotions, and includes the threshold, intensity, and duration of emotions (Rettew & McKee, 2005). Greater negative emotionality broadly relates to a range of emotional and behavioral problems (e.g., Eisenberg et al., 1996; Muris, 2006; Rothbart & Bates, 2006). Although negative emotionality is frequently studied as one general factor, evidence suggests that, despite underlying commonalities, components of negative emotionality may have differential effects on adjustment (Rothbart et al., 1994). Two commonly studied components of negative emotionality are fear and frustration.

*Fear.* Fear reactivity can be described as a propensity to experience negative affect, inhibition, or withdrawal in response to novel or challenging situations, signals of punishment, or aversive stimuli (Rothbart & Jones, 1998). Research examining direct relations between fear and adjustment in older children have found that higher fear related specifically to higher internalizing as opposed to externalizing

problems (Hill-Soderlund & Braungart-Rieker, 2008; Ormel et al., 2005; Rothbart, 2007). Infant fear also relates to positive adjustment, such as later empathy, guilt, and shame, as well as less aggression (Rothbart et al., 1994). These results suggest that fear reactivity may have differential relations with symptoms of psychopathology, and specifically may relate to greater internalizing problems and potentially fewer externalizing problems.

*Frustration.* Frustration reactivity, also described as anger or irritability, refers to distress to limitations, and represents an affective response to experiences of failure, having a goal blocked, or the interruption of an ongoing task (Rothbart et al., 1994). Specifically, frustration is seen as a response to unconditioned aversive stimuli resulting in the production of defensive or aggressive behaviors, as opposed to inhibition or escape seen in fear responses (Gray & McNaughton, 2000). Research demonstrates significant relations between children's anger, frustration, and hostility, and the tendency toward externalizing problems (e.g., Eisenberg et al., 2001; Gilliom, Shaw, Beck, Schonberg, & Lukon, 2002; Lemery, Essex, & Smider, 2002; Lengua, 2003). Unlike fear, however, frustration seems to have a more pervasive effect on children's outcomes, with evidence of frustration predicting children's internalizing problems (Eisenberg et al., 2001; Lengua, 2003). For example, in middle childhood, frustration predicted both later internalizing and externalizing problems (Ormel et al., 2005). Although associations between frustration and externalizing problems are more consistent, these results suggest that frustration may be a predictor of severity of maladjustment in general, serving as a risk factor across problem types.

*Effortful Control.* Effortful control reflects the self-regulatory aspect of temperament, and describes the ability to purposefully regulate behavior, to resist interference, or to suppress a dominant response in favor of a subdominant response (Bjorklund & Kipp, 1996; Murray & Kochanska, 2002). Effortful control has been linked to lower externalizing and internalizing problems, and better social competence (e.g., Eisenberg, Fabes, Guthrie, & Reiser, 2000; Eisenberg et al., 2004; Rothbart et al., 1994). The ability to effortfully inhibit a prepotent behavioral or emotional response and subsequently engage in an adapted or entirely different response requires the recruitment of multiple selfregulatory skills, making effortful control a multifaceted construct, and unique components of effortful control may differentially relate to children's adjustment (Davis, Bruce, & Gunnar, 2002). Specifically, effortful control is composed of both a 'cool', cognitive component (executive control) and a 'hot', emotional component (delay of gratification; Brock, Rimm-Kaufman, Nathanson, & Grimm, 2009). Whereas the 'cool' component involves complex cognitive processes that occur in emotionally neutral contexts, the 'hot' component specializes in emotional processing and is engaged when children must navigate their emotions to successfully solve a problem (Zhou, Chen, & Main, 2012). Although these components are related and normally work as an integrated system, evidence suggests that these components differ in their developmental course, predictors, and relations with social and emotional outcomes (King, Lengua & Monahan, 2013; Li-Grining, 2007). As these components appear to develop and function in unique ways, it may be beneficial to investigate their individual effects on child adjustment.

*Executive Control.* Executive control is the 'cool', cognitive component of effortful control associated with voluntary regulation, particularly in the context of abstract concepts and higher order thinking when emotional consequences are not present (Brock et al., 2009). Executive control involves executive attention systems that influence experience and behavior by facilitating the shifting and focusing of attention (attention control), as well as the conscious inhibition and activation of behavior (inhibitory control; Liew et al., 2004). Greater executive control has consistently predicted lower rates of children's externalizing and internalizing problems (Rettew & McKee, 2005; Valiente et al., 2003). Additionally, children with comorbid externalizing and internalizing problems were found to have lower executive control than children without problem behaviors whereas children with only internalizing problems had higher executive control than children with externalizing problems (Eisenberg et al., 2001). Relations to aspects of positive adjustment, such as social competence, empathy, less aggression, and less negative emotionality, suggest that executive control may be an important protective factor in child development (Eisenberg et al., 2001).

*Delay Ability.* Delay ability is the 'hot', emotional component of self-regulation and reflects the capacity to tolerate delaying immediate gratification. The ability to delay an immediate reward in the service of more long-term goals requires many of the skills encompassed by executive control, but has an additional requisite of regulating affect and motivation that are relevant in emotionally evocative contexts (Hongwanishkul, Happaney, Lee, & Zelazo, 2005). Difficulty delaying gratification, often described as impulsivity, has been linked to a variety of negative outcomes,



but particularly to externalizing problems (Krueger, Caspi, Moffitt, White, & Stouthamer-Loeber, 1996). Additionally, impulsivity was a direct and unique predictor of later externalizing problems over and above the effect of executive control, suggesting that these components of effortful control may have differential effects on adjustment (Eisenberg et al., 2004). Multimethod measures of negative emotionality, including mother report on questionnaires and observation of children's reactivity to emotioneliciting tasks, were used to capture differing perspectives on children's behavior. Both approaches provide valuable information (Rothbart & Bates, 2006). Laboratory observations capture individual differences across children within the same context, but constitute only one observation that may not reflect the child's typical behaviors in a natural setting. Maternal reports capture consistencies in behaviors within a child across different contexts, but may be biased by maternal perceptions or characteristics (e.g., depression). Comparing results across these methods may capture both variability between individual children (behavioral observations) and more consistent temperamental characteristics within the child (maternal report).

The Renaissance in Central Asia resulted in the greatest achievements in the political, economic and spiritual life of society. During this period, political and legal sciences, new literature and art, medicine, philosophy, and a new aesthetic consciousness were created.<sup>1</sup>

The article examines the most important issues of the formation of the rule of law and

civil society in modern Uzbekistan. Uzbekistan has a rich experience of political life, features of political consciousness and develops in unique and difficult conditions. Thus, it turned out that it is wrong to copy a simple copy of the political experience of the Western world.<sup>2</sup>

The paper investigates the essence of spiritual potential as well as its role in modern society.<sup>3</sup>

Founded as a statesman in the history of the Baburi dynasty, he became one of the world's most famous historians with his book "Boburnoma" written in Uzbek.<sup>4</sup>

Mothers reported on their child's negative emotionality using the fear and frustration subscales of the child behavior questionnaire, which was developed for use with children 3–6 years, and has demonstrated adequate internal consistency and validity (Goldsmith & Rothbart, 1991; Rothbart, Ahadi, Hershey, & Fisher, 2001). Mothers responded to items on a scale ranging from 1 (very false) to 7 (very true). Sample fear and frustration items include 'My child is afraid of burglars or the boogie man' and 'My child gets frustrated when prevented from doing something s/he wants to do', respectively. Subscale scores for fear and frustration were calculated as the mean weighted sum of the items on a subscale. Internal consistency reliabilities for

<sup>1</sup> Tolibjonovich, M. T. (2021). EASTERN RENAISSANCE AND ITS CULTURAL HERITAGE: THE VIEW OF FOREIGN RESEARCHERS. *ResearchJet Journal of Analysis and Inventions*, 2(05), 211-215.

<sup>2</sup> Nasriddinovich, A. A. (2021). STRUCTURE, MODELS AND CHARACTERISTICS OF CIVIL SOCIETY. *STRUCTURE*, 7(4).

<sup>3</sup> Talantbek, M., & Omonillo, E. (2022). SPIRITUAL POTENTIAL AND ITS ROLE IN MODERN. " *Yosh Tadqiqotchi*" *jurnali*, 1(2), 58-62.

<sup>4</sup> Madumarov Talantbek Tolibjonovich, & G'ulomjonov Odiljon Raximjon o'g'li. (2020). The place of the Baburian dynasty in world history. *INTERNATIONAL JOURNAL OF DISCOURSE ON INNOVATION, INTEGRATION AND EDUCATION*, 1(2), 57-60. Retrieved from <http://summusjournals.uz/index.php/ijdiie/article/view/94>

mother-reported fear and frustration were .66 and .74, respectively. Child fear and frustration were also assessed using laboratory emotion-eliciting tasks administered by an experimenter while the child's mother was not present. These tasks were adapted from the laboratory temperament assessment battery, which is a standardized instrument for assessment of temperament in children 3–5 years of age (Goldsmith, Reilly, Lemery, Longley, & Prescott, 1995). Emotional and behavioral responses to the tasks were later rated by coders unfamiliar with the children and hypotheses of the study. Children's effortful control moderates the effects of negative emotionality on the development of externalizing problems, with specific aspects of effortful control having differential effects depending on the type of negative emotionality. Delay ability in combination with greater fear resulted in fewer externalizing behaviors whereas deficits in executive control in combination with greater fear or frustration related to more externalizing problems. These findings highlight the importance of effortful control as a moderator of reactivity. However, many anticipated associations did not emerge. It may be that, within this age group, effortful control has not developed fully enough to demonstrate a significant effect on child outcomes, or that adjustment problems at this age may actually reflect temperamental difficulties as opposed to symptoms of psychopathology. Nonetheless, these findings support the need for continued research on temperament-by-temperament interactions, particularly research that investigates specific as opposed to broad dimensions of temperament. A better understanding of the interactions between regulatory and reactive components of temperament may lead to more efficient and effective intervention efforts that target the

strengthening of components of children's self-regulation geared toward the management of specific negative emotions.

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