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## The role of stress response in the association between autonomy and adjustment in adolescents



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#### ABSTRACT

Developing autonomy is an important developmental task that has implications for adolescent adjustment and may be impacted by adolescents' response to stress. This study examined whether stress reactivity (i.e., cortisol and heart rate reactivity) to a parent-adolescent conflict interaction moderates the effect of autonomy on adjustment assessed one year later in 100 adolescents (M age = 15.09; 68% girls). Multiple group models suggested that youth who evidenced higher stress reactivity when compared to those with lower stress reactivity were more likely to report decreased externalizing problems and internalizing problems when their parents granted more autonomy. In contrast, youth who evidenced higher stress reactivity were experienced undermining of autonomy were more likely to report increased externalizing and internalizing problems than youth who evidenced lower stress reactivity. Results support biological sensitivity to context theory and highlight the importance of considering individual differences in the effect of developmental milestones on adolescents' adjustment.

#### 1. Introduction

Problems negotiating important developmental tasks during adolescence, such as autonomy development, may alter youth's developmental trajectories throughout the life course [52,57]. This may be because failure to attain competency in developing autonomy may increase vulnerability for functioning in other important developmental domains, such as maintaining emotional and behavioral competence (e.g., avoiding risk behavior, maintaining positive mental health; [39]). Parents are critical in the healthy development of adolescents' autonomy by creating a context where realignment in decision making shifts from parents to youth. Some parents and adolescents find this realignment process difficult, particularly when parents are not supportive or do not fully grant adolescents autonomy [4]. Despite the relevance of this developmental task to adolescent outcomes, only a handful of studies have examined whether parental behaviors that promote or restrict autonomy development are associated with increases in emotional and behavioral problems during the adolescent period.

Youth whose parents restrict autonomy and who also are prone to responding to new developmental tasks as stressful may be more vulnerable to the effect that parenting behaviors that restrict autonomy have on developmental outcomes. This basic premise of stress reactivity impacting the effect of the environment on individuals' developmental outcomes is consistent with Boyce's and Ellis' [11] theory of biological sensitivity to context. This theory proposes that individual differences in stress reactivity increase reactive individuals' susceptibility to both adverse and positive environments, which in turn increases vulnerability for developing negative outcomes under stressful conditions (such as when youth experience problems negotiating new developmental tasks) and positive outcomes under supportive conditions (such as supportive family environments who grant youth autonomy). Recent studies have started to examine this basic premise that stress reactivity may moderate the association between the family environment and adolescent outcomes [28,60] however to date these studies have not focused specifically on parenting behaviors that promote or restrict autonomy. Identifying the conditions under which developmentallyspecific factors, such as autonomy, associate with maladaptive behavior is paramount for informing more developmentally focused prevention programs to reduce problematic outcomes among adolescents [27].

## 2. The relationship between autonomy and adolescents' adjustment

Failures in important developmental task domains have been theorized to have consequences for developmental outcomes concurrently

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and throughout the life span [41]. During adolescence, developmental outcomes that are of concern are internalizing problems [32] and externalizing problems [29]. One of the chief developmental tasks during adolescence [4] that may impact youths' externalizing and internalizing problems is the process of developing autonomy while maintaining emotional connectedness within the parent-adolescent relationship (i.e., autonomy and relatedness; [4,61]). Many definitions have been put forth to describe autonomy development, with the recognition that this construct is multifaceted and includes emotional, behavioral, and cognitive components that allow adolescents to feel competent in making decisions and regulating their own actions [62]. In the current study, we are primarily concerned with examining parenting behaviors that support the development of individuation such that parents encourage adolescents to make decisions on their own, as well as provide input into family decision making. This is consistent with some aspects of emotional autonomy development, which involve the renegotiation of roles so that the parent-adolescent relationship becomes more egalitarian. Difficulties in negotiating autonomy can have negative consequences for adolescents' adjustment, a premise consistent with both a developmental cascade framework and a dynamic systems approach, which postulate that failure in key developmental tasks, such as autonomy development, may lead to consequences in other developmental domains [40].

Despite the theoretical attention that autonomy has garnered, few recent studies have examined the direct effect of autonomy on adolescents' internalizing and externalizing problems. In an older study, using multiple measures of autonomy and relatedness, Allen et al. [4] found that inhibiting of adolescents' autonomy was associated with increased internalizing behaviors, whereas parental rejection, which inhibited relatedness, was associated with higher externalizing behaviors. In a recent meta-analysis that included several studies relying mostly on self-report, autonomy granting was found to have a small association with externalizing behaviors [49]. Additionally, longitudinal research utilizing observational measures during middle adolescence has indicated that adolescents whose mothers granted them less autonomy during an observed interaction were more likely to increase their degree of hostility toward others during young adulthood [6], suggesting long-term consequences of restricting autonomy on externalizing type behaviors.

Researchers also have examined the effect of psychological control, a related but distinct construct from autonomy granting, on adolescent outcomes. Psychological control involves parents trying to control their adolescents' thoughts and behaviors through intrusive and manipulative methods, which may serve to undermine the individuation process in that it interferes with both autonomy and relatedness [35]. Research has suggested that higher levels of psychological control have unique associations with increased internalizing problems and externalizing problems longitudinally [35,36,49,58]. Taken together, research would suggest that parents' restriction of adolescents' autonomy and relatedness and increased psychological control will be associated with increased internalizing problems during adolescence.

#### 3. The moderating role of adolescents' stress response

The direct association between autonomy and adolescent adjustment may be affected by individual difference factors, such as adolescents' processing of stress [55]. Boyce and Ellis [11] proposed, and previous research has supported [11,20], that individual differences in reactivity, developed as a result of the interaction between genetic and early environmental experiences, increase reactive individuals' susceptibility to both adverse and positive environments (biological sensitivity to context), which in turn increases vulnerability for developing negative outcomes under stressful conditions and positive outcomes under supportive conditions. In the context of the current study, an adverse environment would be one in which parents restrict autonomy and emotional support is low, and a positive environment would be one in which autonomy and relatedness are not restricted and are promoted within the parent-adolescent relationship.

The interactive effect of adolescents' stress response and problems with autonomy granting on functioning during adolescence has not been examined. However, several studies during infancy and childhood suggest that behaviorally or biologically reactive children, as compared to less reactive children, indicate poorer outcomes under conditions of contextual adversity (e.g., low parental warmth) and better outcomes in supportive environments (e.g., high parental support; ([12,20,22,24]; Obradovic, Bush, Stamperdahl., Adler, & Boyce, 2010).

Research during adolescence focusing on the family context has been more scant. A handful of studies have demonstrated that adolescents who are physiologically reactive and experience family adversity (e.g., child maltreatment, marital conflict) are more prone to externalizing and internalizing behaviors and, in contrast, adolescents who are reactive and experience positive family contexts are more prone to positive adjustment or a lack of maladaptive behaviors, thus supporting the premise of biological sensitivity to context theory [19,34,60]. These studies are limited, however, in that none conducted during adolescence explicitly examined parenting. A few recent studies have examined cardiovascular response as a vulnerability factor that influences the impact of parenting on adolescents' adjustment. Hinnant, Erath, and El-Sheikh [28] examined the interactive effect of RSA suppression, an indicator of stress arousal, and harsh parenting on changes in delinquency and substance use, and found support for their hypothesis that the highest rates of delinquency and other drug use were found among youth who evidenced hyperarousal to stress and also experienced higher rates of harsh parenting. Fletcher, Buehler, Buchanan and Weymouth [26] also examined the interactive effect of RSA suppression and different indices of negative parenting, with results suggesting that RSA suppression increased the negative effect of psychological control on depressive symptoms for boys only. Hinnant et al.'s and Fletcher et al.'s research, although relevant, did not examine the role that cortisol, an important indicator of stress reactivity, might exert on this relationship.

#### 4. Hypotheses

Drawing on the existing literature and theoretical premises outlined by developmental cascade theory and biological sensitivity to context theory, we tested a model that examined the effect of parental behavior that promotes or restricts autonomy and relatedness on adolescents' internalizing and externalizing problems, and if this relationship differed as a function of adolescents' stress reactivity. Specifically, we tested two hypotheses. First, we hypothesized that observed maternal restriction of autonomy, less observed maternal promotion of autonomy and relatedness, and self-report of lower maternal autonomy granting and higher psychological control will be associated with increased adolescent externalizing and internalizing problems. Additionally, we examined adolescents' stress response as a moderator of the relationship between factors associated with autonomy development and adolescents' outcomes. Specifically, we hypothesized that a heightened stress response will be a vulnerability that increases adjustment problems for adolescents with autonomy problems such that adolescents who have a heightened stress response and who experience parenting behaviors that restrict autonomy will report the highest externalizing and internalizing problems. In contrast, adolescents who have a heightened stress response and whose mothers grant autonomy and give support will report the least externalizing and internalizing problems. Results from this study could be used to target adolescents who may be most vulnerable to increases in maladjustment when their mothers do not encourage healthy emotional autonomy development.

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