THE BENEFITS OF NURTURANT-INVOLVED PARENTING FOR CHILDREN'S INTERNALIZING SYMPTOMS AND CARDIOMETABOLIC HEALTH IN HIGH-RISK CONTEXTS

by

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(Under the Direction of Katherine B. Ehrlich)

ABSTRACT

Despite considerable evidence that nurturant-involved parenting is linked with children's social, psychological, and physiological development, less is known about the specific contexts in which nurturant-involved parenting is most beneficial for children's mental and physical health. The present study examined how associations between nurturant-involved parenting, internalizing symptoms, and cardiometabolic risk varied as a function of stress and discrimination. Analyses indicated that among youth who reported high levels of stress and racial/ethnic discrimination, nurturant-involved parenting was negatively associated with cardiometabolic risk. Although stress and discrimination were significantly associated with internalizing symptoms, neither stress nor discrimination moderated the relation between nurturant-involved parenting and internalizing symptoms. Results highlight the significant role that parents play in shaping children's health, particularly among youth experiencing high levels of stress and discrimination.

INDEX WORDS: Parenting, Stress, Discrimination, Internalizing symptoms, Cardiometabolic risk

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DEDICATION

This thesis is dedicated to my own incredibly nurturing and involved parents. To my late mother, Dr. Rebecca DelCarmen-Wiggins, who continues to be my biggest role model, and my father, Dr. Stephen E. Wiggins, who always provides me with much-needed perspective. Thank you for everything.

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CHAPTER 1

INTRODUCTION

The quality of parenting that children receive profoundly affects children's lives and can have both short-term and long-lasting effects across social, psychological, and biological domains. Parenting behaviors such as nurturant-involved parenting, which is defined as high parental warmth, inductive reasoning, communication, and child monitoring (Brody et al., 2001), can be particularly beneficial for children's well-being. Parental warmth has been linked to children's psychological adjustment (Khaleque, 2013) and internalizing symptoms (del Barrio et al., 2016). Similarly, supportive parenting is associated with children's cardiovascular functioning and inflammation in childhood (Bell & Belsky, 2008; Carroll et al., 2013; Miller, Yu, & Chen, 2014). Despite general consensus about the positive effects of nurturant-involved parenting on children's development, questions remain about the specific contexts in which nurturant-involved parenting is most beneficial for children's mental and physical health.

Some research suggests that the benefits of nurturing and involved parenting practices are not uniform across contexts (Brody et al., 2001; Soenens et al., 2015). These benefits may differ in part because children's development is influenced by complex interactions between children and the people and environments around them. Specifically, these interactions vary based on the joint characteristics of the child and the more immediate (e.g., home life) and distant (e.g., community norms) environments in which the interactions take place, including the changes that occur to that environment over time (Bronfenbrenner & Morris, 1998). In other words, the nurturant-involved parenting behaviors that primary caregivers employ may have different

effects on children's development and well-being depending on the contexts in which they occur. For example, Ogg and Anthony (2020) found that only children from low-socioeconomic status (SES) backgrounds benefitted academically from parental warmth. For children living in more well-resourced environments, parental warmth was negatively related to their academic growth. Similarly, parental monitoring is associated with fewer externalizing and antisocial behaviors among children who live in unsafe neighborhoods (Pettit et al., 1999). Similar benefits of parental monitoring emerged in another study of children who spent a significant amount of time unsupervised (Laird et al., 2010). Conversely, parental monitoring and vigilance are unrelated to children's health (Corallo et al., 2023) or are even detrimental in lower-risk settings (Gonzales et al., 1996; Laird et al., 2018). Additionally, the benefits of involved parenting on adolescent problem behaviors (delinquency, school-related problem behavior, and depressive symptoms) may be most evident among children living in unsafe neighborhoods (Roche et al., 2007). These findings suggest that parenting may be most influential in high-risk settings and have less clear benefits in low-risk contexts.

There are several mechanisms that may explain why the benefits of nurturant-involved parenting on health and well-being may be strongest in high-risk contexts. First, when parents and children have a history of open communication and parents are able to provide effective support, children may experience more relief from stressful environments and engage in fewer negative coping strategies compared to children without a parent they can talk to about difficult experiences (Howard & Medway, 2004). As a result, they may be able to derive benefits from this support that translate into better mental and physical health. Second, these discussions with parents might serve as opportunities for children to learn helpful strategies from their parents about how to navigate a stressful or hostile world. Children can then use these strategies

throughout their lives as they encounter additional stressors. Within the context of a supportive parent-child relationship, children are likely to not only feel comforted in the moment, but to learn healthy and effective strategies from discussing challenging and unpleasant experiences with their caregivers that help them better cope with future stressors.

Stress in Childhood and Adolescence

Childhood and adolescence are periods of development characterized by socio-emotional change as youth construct their sense of identity, learn how they fit in with those around them, and adjust to school environments. Prior research has identified early adolescence as a period during which children are particularly vulnerable to negative health consequences associated with stressful life events (Romeo, 2013; Siegel & Brown, 1988). It is also during these stages of development that many mental and physical health disorders begin to emerge (Dietz, 1997; Kessler et al., 2007) making it an ideal time to examine how certain stressors influence health trajectories.

During childhood and adolescence, youth face many stressors, including peer pressure, family conflict, and increased pressure to succeed in school. Children and adolescents consistently report school as a major source of stress in their lives (Anniko et al., 2019; Östberg et al., 2015). Additionally, social stress from peers and parents can be highly stressful for children. Peer pressure is associated with a range of adverse health behaviors, including risk taking and substance use (Allen et al., 2006), and susceptibility to peer pressure has been linked with depressive symptoms (Santor et al., 2000). The family environment also continues to play a central role in children's social worlds, and family conflict during childhood and adolescence is similarly associated with internalizing symptoms and health-related outcomes (Ehrlich et al., 2015a; Ehrlich et al., 2015b; Formoso et al., 2000; Reinherz et al., 2003; Weymouth et al., 2016).

Together, these sources of stress can have significant effects on children's mental and physical well-being and may moderate the associations between nurturant-involved parenting and health.

In addition to facing these general stressors, children of color disproportionately experience unique psychological stress exposures in the form of racial and ethnic discrimination. These exposures accumulate over time and increase risk of poor mental and physical health (Clark et al., 1999; Sims et al., 2012). Experiences of racial discrimination are alarmingly frequent in children's lives, have increased in recent years, and are distressing interactions that children can recognize from a very early age (Dulin-Keita et al., 2011; Elenwo et al., 2022). Recent estimates suggest that by the time Black children reach adolescence, they report an average of five encounters of racial discrimination per day (English et al., 2020). The ubiquity of these experiences in childhood and adolescence highlights the importance of research on the effects of discriminatory stress on children's mental and physical health.

The experience of racial and ethnic discrimination among Black and Hispanic children predicts poorer psychological well-being, including increased risk of depression and anxiety (Bernard et al., 2022; Clark et al., 2004; Gaylord-Harden & Cunningham, 2009; Lavner et al., 2023; Umaña-Taylor & Updegraff, 2007). In acting as a social stressor, exposure to discrimination in childhood and adolescence may also affect youths' physical health by altering the functioning of biological stress-regulatory systems (Geronimus et al., 2006). Although experiences of racial discrimination have been associated with a range of cardiometabolic risk markers among adults, few studies have examined these associations in childhood. Evidence from adult samples suggests that experiences of racial discrimination are linked with coronary artery calcification and inflammatory markers such as high C-reactive protein levels and high interleukin-6 levels (Kershaw et al., 2016; Lewis et al., 2010). Additional research is needed to

determine how experiences of discrimination in childhood may influence the association between nurturant-involved parenting and the physical health of children of color.

The Present Study

Although prior research has led to significant advances in our understanding of how parenting practices affect children's mental and physical health, several gaps remain. Most research on stress, discrimination, and health focuses on adult populations. Few studies have examined associations among parenting, stress, discrimination, and health in young children, and even fewer studies have examined these associations specifically in young children of color. In the present study, we address these limitations by examining these links in a sample of Black and Hispanic children ranging in age from 8 to 16. Additionally, most prior work has studied mental and physical health as outcomes in different study samples, leaving questions about whether the benefits of nurturant-involved parenting would apply within the same sample of children when exposed to the same environmental conditions. The present study addresses calls to examine both mental and physical health outcomes within the same study (Ehrlich et al., 2016), providing a more comprehensive picture of the role of parenting in shaping children's mental and physical health.

The primary purpose of this investigation is to examine the role of context in shaping links between nurturant-involved parenting and children's mental and physical health. Specifically, we sought to elucidate the specific contexts in which supportive parenting is most beneficial for children's health. Based on this broader goal, this study addressed the following research question: Are the benefits of nurturant-involved parenting most likely to emerge in high-risk contexts, when children are experiencing high levels of stress or discrimination? We hypothesized that among children experiencing high levels of stress or discrimination, nurturant-

involved parenting would be negatively associated with internalizing symptoms and cardiometabolic risk.

CHAPTER 2

METHOD

Participants

Participants included 165 youth (M_{age} = 11.5 years, *SD* = 2.6 years; 49.1% girls; 60% Black/African American; 40% Hispanic/Latinx) and their guardians from the Athens, GA area. Families were recruited using flyers, sharing information at community events, working directly with community liaisons, and using snowball recruiting through participants already enrolled in the study. To be eligible, children had to identify as Black/African American or Hispanic/Latinx, be between the ages of 8-16 years, and be fluent in English. Youth were excluded if they had a history of any chronic diseases (e.g., diabetes, an autoimmune condition), were receiving dialysis or other blood-related treatment, or had been diagnosed with any severe cognitive disabilities or developmental delays. If children had recently experienced an acute infection, their visit was scheduled at least four weeks after the infection. Two children were ultimately excluded due to one child having untreated diabetes (hemoglobin A1C [HbA1c] value of 15.7%), and one family being unable to complete the study procedures, resulting in a final analytic sample of 165. Over half of the sample (57%) met the 2021 poverty threshold (HHS, 2021), and 26% of guardians in the sample did not complete high school.

The Institutional Review Board at the University of Georgia approved all study protocols. Guardians (92.7% mothers, 4.2% fathers, and 3% other) provided written consent, and youth provided written assent. Children and their guardian each received $50 for participating in the study visit along with $20 for transportation.

Procedure

All data were collected between July 2021 and May 2022. Families in the study completed baseline assessments as part of a larger study focused on risk and resilience among at-risk youth. During the study visit, trained research assistants administered surveys to children and guardians. To aid in comprehension, research assistants read survey questions out loud to younger children who requested assistance. For Spanish-speaking parents, measures were translated, and a Spanish-speaking research assistant was available to clarify any questions. Research assistants completed biometric assessments of children's height, weight, waist and hip circumference, and blood pressure. Participants also completed assessments beyond the scope of the current study. Certified pediatric phlebotomists performed all blood draws.

Measures

Stress

Youth reported on their perceived stress using subscales from the Adolescent Stress Questionnaire (Byrne et al., 2007) assessing the stress of home life, stress of peer pressure, and stress of performing well in school. We included a subset of questions from these scales that were age-appropriate and relevant to the present study. Questions reflected common stressors in children's lives, including "arguments at home," "keeping up with schoolwork," and "being judged by your friends." Responses were rated on a Likert-type scale from 1 (*not at all stressful or is irrelevant to me*) to 5 (*very stressful*). Items from subscales were combined to generate an overall mean stress score [α = .84, *M*(*SD*) = 2.38 (.84)], with higher scores reflecting greater stress.

Discrimination

Youth reported on discrimination using the Everyday Discrimination Scale (Williams et al., 1997), which is a 9-item measure designed to assess routine experiences of unfair treatment. The scale is validated for use with children and adolescents and includes items such as "you are treated with less respect than other people are" and "people act as if they're better than you are." Responses were scored on a 6-point Likert-type scale ranging from 1 (*almost every day*) to 6 (*never*). Scores were subsequently reversed so that higher scores represented greater discrimination. Responses were averaged to generate an overall mean discrimination score [α = .82, *M*(*SD*) = 2.28 (1.08)].

Nurturant-Involved Parenting

Guardians completed the Nurturant-Involved Parenting Scale (Brody et al., 2001) to assess parental warmth, involvement, low hostility, and low rejection. This 9-item scale includes responses ranging from 1 (*never*) to 4 (*always*). Sample items include "how often does your child talk to you about things that bother him/her?" and "how often do you ask your child what he/she thinks before deciding on family matters that involve him/her?" Responses were averaged to generate an overall mean score [α = .76, *M*(*SD*) = 3.33 (.45)], with higher scores reflecting more nurturant-involved parenting.

Internalizing Symptoms

To assess depressive symptoms, youth completed the Center for Epidemiologic Studies—Depression short form (CES-D; Andresen et al., 1994; Radloff, 1977). This 10-item questionnaire asks youth about their depressive symptoms over the course of the past week. Responses were scored on a 4-point Likert-type scale, ranging from 0 (*rarely or none of the time; less than one day*) to 3 (*all of the time; 5-7 days*), and averaged to create a mean score [α =

.69, *M*(*SD*) = .80 (.48)], with higher scores reflecting more depressive symptoms. Youth reported on their anxiety using the generalized anxiety subscale of the Spence Anxiety scale (Spence, 1997). This 6-item subscale is validated for use with children and adolescents and includes items such as "when I have a problem, I get a funny feeling in my stomach" and "I worry that something bad will happen to me." Response options ranged from 0 (*never*) to 3 (*always*), which were averaged to create a mean score [α = .80, *M*(*SD*) = 1.1 (.71)]; higher scores reflected greater anxiety symptoms. Due to the high correlation between the two scales (r = .58, $p < .001$), we standardized the means from each scale and then averaged those scores to create a composite that reflects children's internalizing symptoms.

Cardiometabolic Risk

Cardiometabolic risk was measured using the following criteria: systolic and diastolic blood pressure (BP), waist circumference, high-density lipoprotein (HDL) cholesterol, triglycerides, and HbA1c. Research assistants collected three readings for children's blood pressure (OMRON IntelliSense Blood Pressure Monitor HEM-907XL). Because the first reading can be elevated, only the final two readings were averaged to create BP estimates (Negroni-Balasquide et al., 2016). BP cutoffs were determined based on age, sex, and height percentiles, following guidelines from the American Academy of Pediatrics (AAP; Flynn et al., 2017). Children under 13 years old met the cutoff if their systolic or diastolic blood pressure was ≥ 90th percentile. Children ages 13 and older met the cutoff if their systolic BP was ≥ 120 or their diastolic BP was ≥ 80.

Researchers measured waist circumference twice at the midpoint of the upper iliac crest and lower costal margin at the midaxillary line. If the first two measurements were more than 0.2 cm apart, then researchers measured waist circumference a third time. The average of the closest

two readings represented the mean. Waist circumference cutoffs were determined based on age and sex percentiles following guidelines from the International Diabetes Federation (Alberti et al., 2007; Fernandez et al., 2004).

Children were asked not to eat or drink for two hours prior to the appointment. Following the blood draw, samples were couriered to the local hospital's CLIA certified laboratory for analysis. HDL cholesterol and triglycerides were assessed using standard enzymatic techniques on a Beckman Coulter AU5800 chemistry analyzer. HbA1c was measured using the Bio-Rad D-10. We used established cutoffs (IDF, 2006) to represent low HDL cholesterol (< 40mg/dL), elevated triglycerides (≥ 150 mg/dL), and elevated HbA1c (≥ 5.7%).

We created dichotomous variables for each component (systolic and diastolic BP, waist circumference, HDL cholesterol, triglycerides, and HbA1c) reflecting whether participants met the specified cutoffs. These scores were then summed to generate an overall metabolic risk sum score with a possible range from 0 to 5, where higher scores indicated greater risk. In this sample, scores ranged from 0 to 4 (M = 1.02, SD = .93).

Covariates

All models controlled for age, sex, race/ethnicity, and socioeconomic status (SES) risk. Age was represented by the child's age (in years) at the time of the study visit. Sex was coded as 0 = *male* and 1 = *female*. Race was coded as 1 = *Black/African American* and 2 = *Hispanic/Latinx*. Drawing on previous research (Brody et al., 2018), we generated an SES risk composite based on six components: poverty based on federal guidelines, primary caregiver unemployment, receipt of government assistance [e.g., Temporary Assistance for Needy Families (TANF), Supplemental Nutrition Assistance Program (SNAP) benefits], primary caregiver single parenthood, primary caregiver education level less than high school graduation

(or GED equivalent), and caregiver reported inadequacy of family income. We created dichotomous variables for each component to generate an SES risk index, with possible and observed scores ranging from 0 to 6 (M = 2.57, SD = 1.39).

Data Analysis

Analyses were conducted using SPSS Version 28.0.1.1. Moderation analyses were tested using Hayes' PROCESS Macro (v4.1, Model 1). Continuous variables were centered prior to analysis. We probed interaction effects using the Johnson-Neyman technique (Johnson & Fay, 1950) to determine specific regions of significance. Table 1 presents descriptive statistics and bivariate correlations for the sample.

CHAPTER 3

RESULTS

Children's Stress as a Predictor of Internalizing Symptoms and Cardiometabolic Risk

Internalizing Symptoms

Regression analyses revealed a significant positive association between children's self-reported stress and their internalizing symptoms, with a medium effect size (see Table 2). Guardian reports of their nurturant-involved parenting were not significantly associated with children's internalizing symptoms; similarly, and contrary to our hypothesis, the interaction between children's stress and nurturant-involved parenting was not significant.

Cardiometabolic Risk

As shown in Table 2, a marginally significant main effect of nurturant-involved parenting emerged that was qualified by a marginally significant Nurturant-Involved Parenting × Stress interaction (b = -.37, SE = .20, p = .06). We probed this interaction using the Johnson-Neyman technique and found that for children whose mean stress scores were more than .02 standard deviations above the mean (40.7% of the sample), nurturant-involved parenting was significantly negatively associated with cardiometabolic risk. Nurturant-involved parenting was not significantly associated with cardiometabolic risk for youth with self-reported stress values below the .02SD threshold.

Discrimination as a Predictor of Internalizing Symptoms and Cardiometabolic Risk

Internalizing Symptoms

Regression analyses revealed a significant positive association between children's self-reported experiences of discrimination and their internalizing symptoms, with a small effect size (see Table 3). In line with the findings for children's stress, guardian reports of their nurturant-involved parenting were not significantly associated with children's internalizing symptoms and the interaction between children's experiences of discrimination and nurturant-involved parenting was not significant.

Cardiometabolic Risk

Although there were no main effects of nurturant-involved parenting or discrimination on cardiometabolic risk, there was a significant Nurturant-Involved Parenting × Discrimination interaction (b = -.32, SE = .16, p = .04). Probing of the interaction indicated that nurturant-involved parenting was negatively associated with cardiometabolic risk when average reports of discrimination were more than .11 standard deviations above the mean (38.0% of the sample). Nurturant-involved parenting was not significantly associated with cardiometabolic risk below the .11SD threshold.

CHAPTER 4

DISCUSSION

This study examined the effects of nurturant-involved parenting, stress, and discrimination on children's mental and physical health within a sample of Black and Hispanic 8-16-year-old children. Results revealed a positive association between children's experiences of stress and discrimination and internalizing symptoms. Partially supporting our hypothesis, we found that at high levels of stress and discrimination, nurturant-involved parenting was negatively associated with children's cardiometabolic risk but was not significantly associated with children's internalizing symptoms.

Our results indicated that both stress and discrimination were linked with greater internalizing symptoms among youth in the current sample. This finding converges with other work showing that these experiences take a significant toll on children, even at an early age. As youth get older, they encounter more stressors at home, with peers, and at school. These stressors are linked to children's mental health, as our study and others indicate. The stress of discrimination among the children in our sample was also significantly associated with their mental health, consistent with previous findings (Benner et al., 2018). Previous work related to the biopsychosocial model of racism (Clark et al., 1999) asserts that experiences of racial discrimination lead to psychological stress responses, including feelings of anger, resentment, helplessness, and hopelessness. These emotional responses to discrimination can subsequently result in increased internalizing symptoms, such as depression and anxiety. Our findings are in line with existing research linking stress and discrimination with poor mental health; however, it

is important to note that these are cross-sectional associations, effect sizes are small-to-moderate, and our results could also be inflated due to shared method variance.

The association between nurturant-involved parenting and cardiometabolic risk significantly varied as a function of stress and discrimination. Our findings are consistent with previous research suggesting that nurturant-involved parenting may matter most for children's physical health in high-stress contexts (Laird et al., 2010; Ogg & Anthony, 2020; Pettit et al., 1999). Although supportive parenting is thought to be beneficial for all children, the health benefits of nurturant-involved parenting may be most evident when children are faced with significant stress. When children experience high levels of stress and/or discrimination, they may engage in conversations with parents that help relieve discomfort and promote healthy coping mechanisms, as opposed to engaging in health behaviors (e.g., substance use, caloric consumption) that might increase their cardiometabolic risk. Notably, similar patterns and effect sizes emerged across both general stressors and discriminatory stress, reinforcing the notion that considering the broader context is important when examining links between parenting and physical health.

Unexpectedly, our findings suggested that the benefits of nurturant-involved parenting in high-risk settings were limited to physical health, but not mental health. That is, although stress and discrimination were linked to youths' internalizing symptoms, nurturant-involved parenting was not beneficial for children who were experiencing these difficult circumstances. As previously noted, stress and discrimination are linked to poor health behaviors and coping mechanisms, such as substance use, sleep, activity, and caloric consumption (Ng & Jeffrey, 2003; Pascoe & Richman, 2009; Schneiderman et al., 2008; Torres & Nowson, 2007). As a result, we may see the benefits of nurturant-involved parenting more clearly with

cardiometabolic risk in comparison to internalizing symptoms. Future research examining more robust measures that tap into possible health behavior pathways could shed light on why parenting is promotive for physical health but not mental health when children face stress in their social worlds. Given the prevalence of these chronic stressors and discriminatory experiences in children's lives, it will be important to identify what, if anything, can promote youth mental health in such challenging environments.

This study has several strengths. First, we examined both mental and physical health outcomes within the same sample of children, contributing to a more comprehensive understanding of the effects of nurturant-involved parenting on children's health. Additionally, inclusion of the blood draw and physical measurements enabled us to capture objective clinical indicators of children's physical health. This study also addresses existing gaps in the literature by examining unique psychological stress in young children of color, shedding light on just how early in development these patterns are present.

Several limitations of the present study should also be addressed in future research. First, current analyses focus on cross-sectional evaluation of parenting, stress, discrimination, and mental and physical health. Future research should examine how these processes unfold over time to examine how changes in nurturant-involved parenting or stress exposures influence internalizing symptoms and cardiometabolic risk. Additionally, we relied solely on guardian reports of their nurturant-involved parenting behavior. Similarly, we relied on children's self-reports of stress, discrimination, and internalizing symptoms. Future research could benefit from utilizing a multimethod approach to assess these constructs, such as the addition of behavioral observations of nurturant-involved parenting. Another limitation of the present work is that the blood draws were non-fasting to accommodate participants' schedules. Although we would have

ideally only included fasting blood draws, evidence from adult samples suggests that non-fasting lipids do not vary dramatically after eating and still maintain clinical significance (Bansal et al., 2007; Darras et al., 2018). The majority (62%) of study visits occurred in the afternoon, which limits between-person variation in cardiometabolic markers that might be influenced by the time of day.

Although we had a wide age range within our sample, we were not powered to test whether the interactions between nurturant-involved parenting and stressors varied as a function of children's age (though age was included as a control variable). Future research with larger sample sizes will be needed in order to examine how the benefits of nurturant-involved parenting for children's health differ based on demographic variables such as age, race/ethnicity, and gender. For example, the types of stressful experiences that young children encounter may be significantly different from those that teens experience. Older children may therefore be more vulnerable to the negative effects of stress due to the increased severity of stressors in their daily lives. Conversely, it is possible that younger children may be more vulnerable to the effects of stress and discrimination because they have fewer internal resources and strategies for effective coping. Similarly, Black and Hispanic children may face unique stressors and different forms of discrimination. For example, Hispanic children may have worries related to language barriers or immigration, whereas Black children may be more concerned about stressors related to police brutality. Given the distinct experiences and challenges that each of these populations face, the forces driving these results may differ based on factors that are race- or ethnicity-specific.

Conclusion

The health trajectories that emerge during childhood can compound and have lifelong consequences for individuals' mental and physical well-being, underscoring the importance of

understanding how parenting may influence health across the lifespan. The current study adds meaningful insights to existing literature about the role that parents can play in supporting their children's health when youth are exposed to high levels of stress and discrimination. When parents engage in supportive behaviors, particularly when children are experiencing heightened levels of stress and discrimination, they may help promote children's physical health. Our findings also highlight that the effects of parenting are context-dependent and underscore the importance of considering race and ethnicity-specific stressors such as discrimination when examining how children's social worlds shape their health. Although parents can play an important role in promoting health when children are in distress, we must ultimately work to reduce the amount of stress and discrimination that children experience to promote children's long-term psychological and physical well-being.

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TABLES

Table 1. Descriptive Statistics and Correlations Among Study Variables

Variable	*M (SD)*	1	2	3	4	5	6	7	8
1. Age	11.5 (2.6)	—							
2. Sex	.49 (.50)	-.037	—						
3. Race	1.4 (.49)	-.012	-.022	—					
4. SES Risk	2.6 (1.4)	-.026	-.089	-.224**	—				
5. Stress	2.4 (.84)	-.171*	.070	.086	-.042	—			
6. Discrimination	2.3 (1.1)	-.209**	-.073	-.097	.116	.395**	—		
7. Internalizing Symptoms	.00 (.89)	-.110	.073	-.020	.025	.610**	.464**	—	
8. Cardiometabolic Risk	1.02 (.93)	-.009	-.006	.024	.044	-.054	-.051	-.092	—

Note. SES = socioeconomic status. Sex (0 = male, 1 = female); Race (1 = Black, 2 = Hispanic)
* $p < .05$; ** $p < .01$

Table 2. Regression Analyses of Nurturant-Involved Parenting and Stress Predicting Internalizing Symptoms and Cardiometabolic Risk in Youth

Internalizing Symptoms			
	b	***SE***	***95% CI***
Age	-0.00	0.01	[-.03, .02]
Sex	0.05	0.07	[-.09, .19]
Race	-0.07	0.07	[-.21, .06]
SES Risk	0.01	0.02	[-.04, .06]
Nurturant-Involved Parenting	-0.06	0.07	[-.21, .09]
Stress	0.39**	0.04	[.31, .47]
Nurturant-Involved Parenting × Stress	-0.13	0.09	[-.31, .05]
Cardiometabolic Risk			
	b	***SE***	***95% CI***
Age	-0.01	0.03	[-.07, .05]
Sex	0.06	0.15	[-.23, .38]
Race	0.08	0.15	[-.23, .38]
SES Risk	0.03	0.05	[-.07, .14]
Nurturant-Involved Parenting	-0.32	0.16	[-.64, .01]
Stress	-0.03	0.09	[-.20, .15]
Nurturant-Involved Parenting × Stress	-0.37	0.20	[-.76, .02]

Note. All analyses were conducted in SPSS using Hayes' PROCESS Macro Version 4.1. Race was dummy-coded as Black (1)/Hispanic/Latinx (2). Sex was dummy-coded as male (0)/female (1).
* $p < .05$; ** $p < .01$

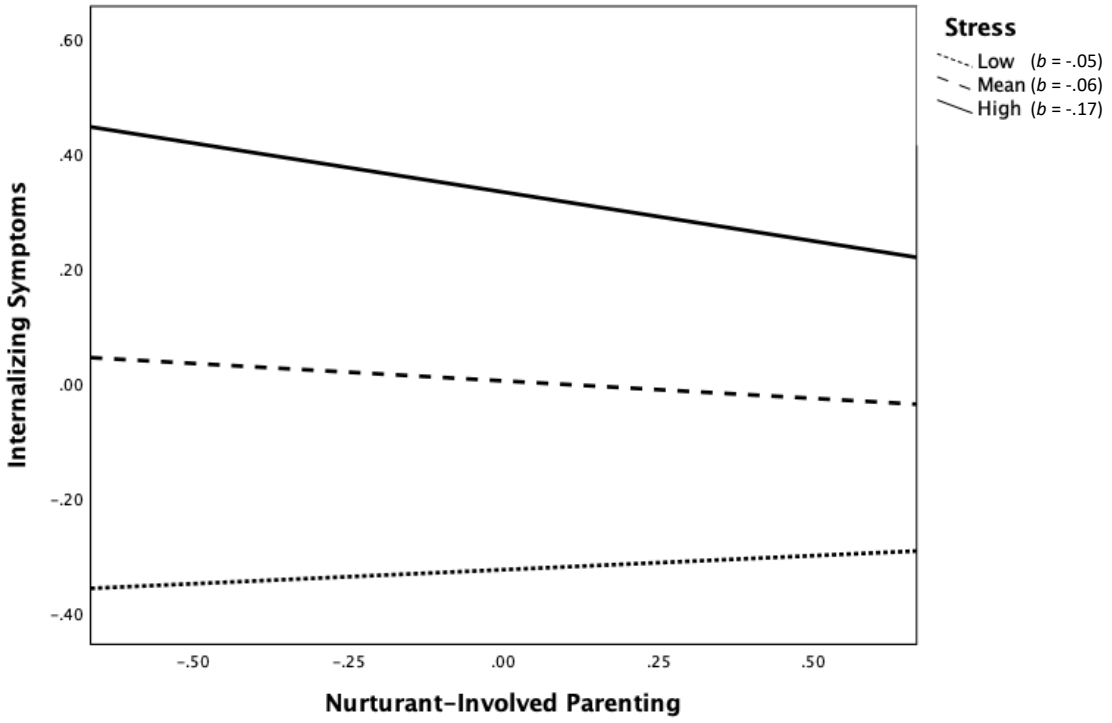
Table 3. Regression Analyses of Nurturant-Involved Parenting and Discrimination Predicting Internalizing Symptoms and Cardiometabolic Risk in Youth

Internalizing Symptoms			
	b	***SE***	***95% CI***
Age	-0.01	0.02	[-.03, .02]
Sex	0.12	0.08	[-.04, .26]
Race	0.04	0.08	[-.12, .19]
SES Risk	-0.01	0.02	[-.04, .02]
Nurturant-Involved Parenting	-0.02	0.08	[-.18, .14]
Discrimination	0.23**	0.04	[.16, .30]
Nurturant-Involved Parenting × Discrimination	-0.09	0.08	[-.25, .07]
Cardiometabolic Risk			
	b	***SE***	***95% CI***
Age	-0.01	0.03	[-.07, .05]
Sex	0.04	0.15	[-.25, .33]
Race	0.07	0.15	[-.24, .37]
SES Risk	0.04	0.05	[-.07, .14]
Nurturant-Involved Parenting	-0.28	0.16	[-.60, .03]
Discrimination	-0.05	0.07	[-.19, .09
Nurturant-Involved Parenting × Discrimination	-0.32*	0.16	[-.63, -.01]

Note. All analyses were conducted in SPSS using Hayes' PROCESS Macro Version 4.1. Race was dummy-coded as Black (1)/Hispanic/Latinx (2). Sex was dummy-coded as male (0)/female (1).
* $p < .05$; ** $p < .01$

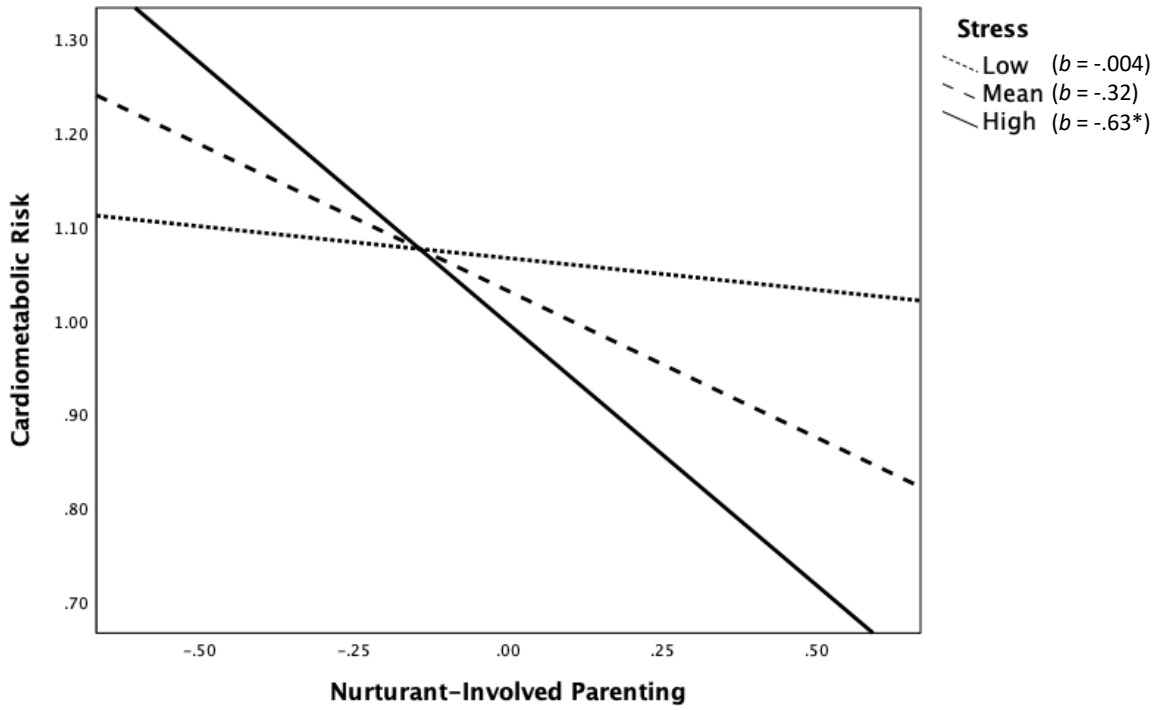
FIGURES

Figure 1. Interaction between Nurturant-Involved Parenting and Stress on Internalizing Symptoms



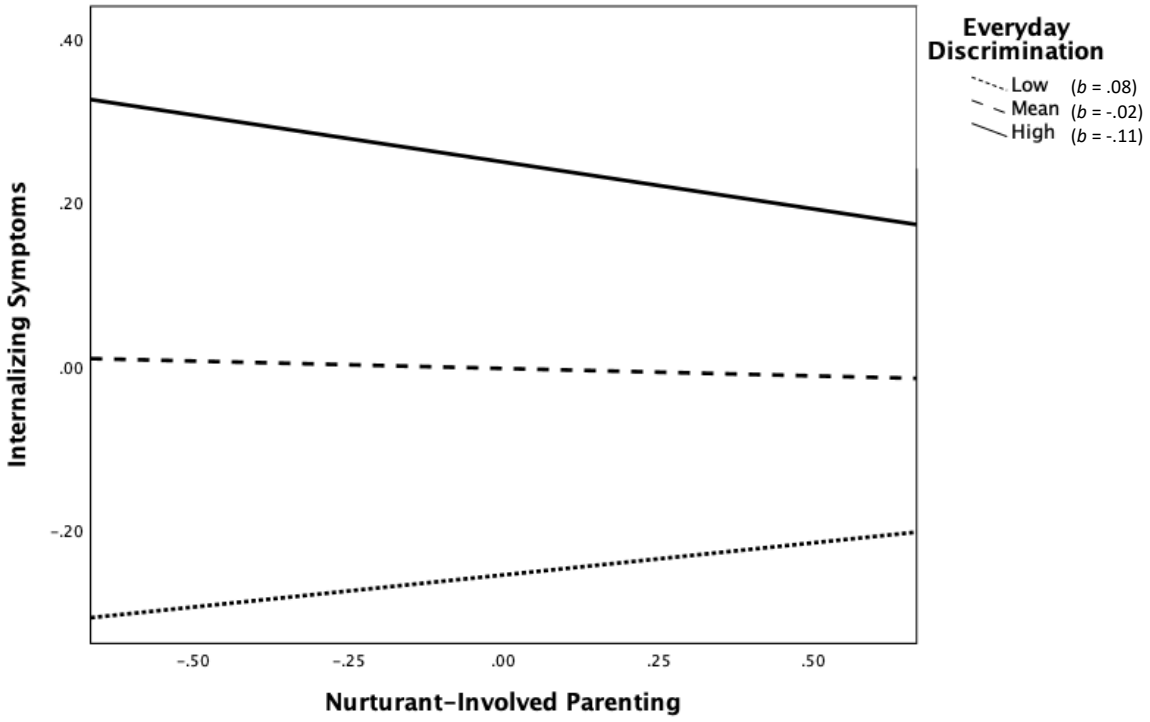
Note. The figure shows estimated regression lines at ± 1SD and mean of children's self-reported stress levels.

Figure 2. Interaction between Nurturant-Involved Parenting and Stress on Cardiometabolic Risk



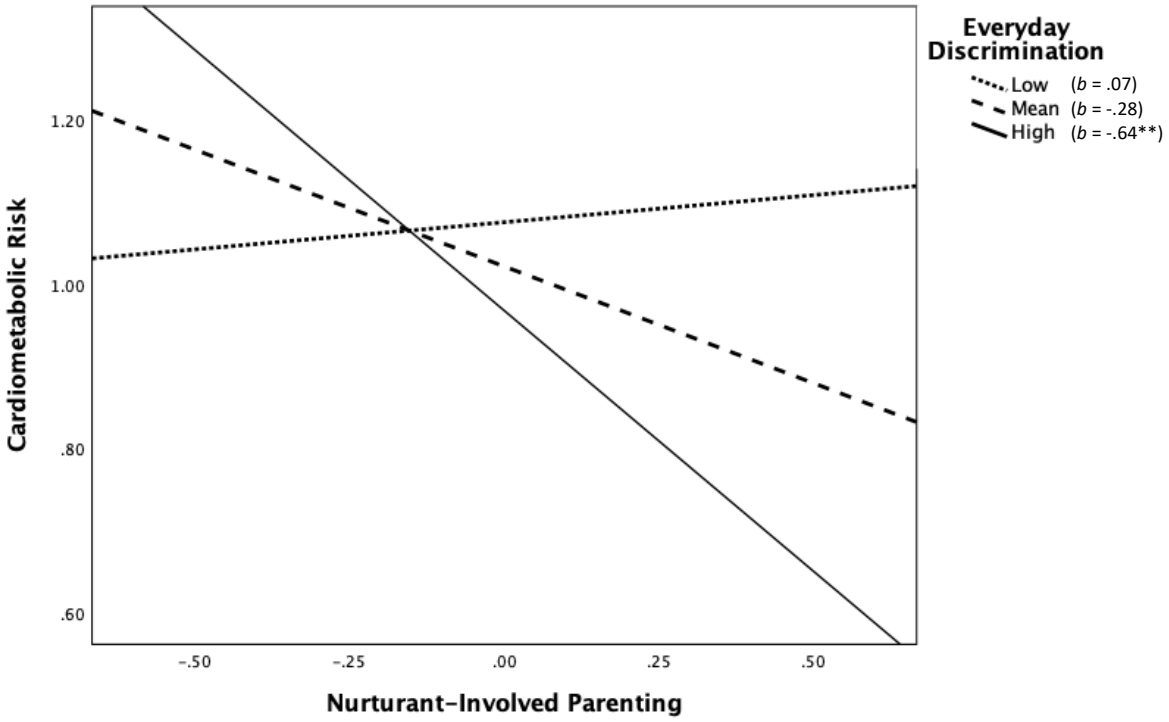
Note. The figure shows estimated regression lines at ± 1SD and mean of children's self-reported stress levels.

Figure 3. Interaction between Nurturant-Involved Parenting and Discrimination on Internalizing Symptoms



Note. The figure shows estimated regression lines at ± 1SD and mean of children's self-reported everyday discrimination levels.

Figure 4. Interaction between Nurturant-Involved Parenting and Discrimination on Cardiometabolic Risk



Note. The figure shows estimated regression lines at ± 1SD and mean of children's self-reported everyday discrimination levels.

APPENDIX A

MEASURES

Adolescent Stress Questionnaire

Please indicate how stressful the below items have been to you during the past year:

1 = Not at all stressful
2 = A little stressful
3 = Moderately stressful
4 = Quite stressful
5 = Very stressful

Stress of Home Life

1. Arguments at home
2. Disagreements between your parents
3. Disagreements between you and your mother
4. Disagreements between you and your father

Stress of School Performance

5. Having to study things you do not understand
6. Teachers expecting too much from you
7. Keeping up with schoolwork

Stress of Peer Pressure

8. Pressure to fit in with peers
9. Being hassled for not fitting in
10. Peers hassling you about the way you look
11. Being judged by your friends

Everyday Discrimination Scale

In your day-to-day life, how often do any of the following things happen to you?

1 = Almost everyday
2 = At least once a week
3 = A few times a month
4 = A few times a year
5 = Less than once a year
6 = Never

1. You are treated with less courtesy than other people are.
2. You are treated with less respect than other people are.
3. You receive poorer service than other people at restaurants or stores.
4. People act as if they think you are not smart.
5. People act as if they are afraid of you.
6. People act as if they think you are dishonest.
7. People act as if they're better than you are.
8. You are called names or insulted.
9. You are threatened or harassed.

Nurturant-Involved Parenting Scale

These next questions are about your relationship with your child.

1 = Never
2 = Sometimes
3 = Often
4 = Always

1. When you and your child have a problem, how often can the two of you figure out how to deal with it?
2. How often does your child talk to you about things that bother him/her?
3. How often do you ask your child what he/she thinks before deciding on family matters that involve him/her?
4. How often do you give reasons to your child for your decisions?
5. How often do you ask your child what he/she thinks before making decisions that affect him/her?
6. When your child doesn't know why you make certain rules, how often do you explain the reason?
7. How often do you discipline your child by reasoning, explaining, or talking to your child?
8. When your child has done something you like or approve of, how often do you let him/her know you are pleased about it?
9. How often do you give your child a reward like money or something else he/she would like when he/she gets good grades, does chores, or something like that?

Center for Epidemiologic Studies—Depression Short Form

Below is a list of some of the ways you may have felt or behaved. Please indicate how often you have felt this way during the past week by checking the appropriate box for each question.

0 = Rarely or none of the time; less than one day
1 = Some or a little of the time; 1-2 days
2 = Occasionally or a moderate amount of time; 3-4 days
3 = All of the time; 5-7 days

1. I was bothered by things that usually don't bother me.
2. I had trouble keeping my mind on what I was doing.
3. I felt depressed.
4. I felt that everything I did was an effort.
5. I felt hopeful about the future.
6. I felt fearful.
7. My sleep was restless.
8. I was happy.
9. I felt lonely.
10. I could not "get going."

Spence Anxiety Scale—Generalized Anxiety Subscale

Please pick the word that shows how often each of these things happen to you.

0 = Never
1 = Sometimes
2 = Often
3 = Always

1. I worry about things.
2. When I have a problem, I get a funny feeling in my stomach.
3. I feel afraid.
4. When I have a problem, my heart beats really fast.
5. I worry that something bad will happen to me.
6. When I have a problem, I feel shaky.