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Caregiver Feeding Practices and Weight Status among African American Adolescents: The Jackson Heart KIDS Pilot Study

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Abstract

Adolescence is a stage in the life course during which youth become more autonomous in their health behaviors. Overweight and obesity during this developmental period are associated with short- and long-term physical and emotional morbidity, and African American youth are at pronounced risk for these health outcomes. The style of parenting employed by caregivers influences health behaviors in children, though the persistence of this influence into adolescence is not clear. This study examined associations among caregiver feeding practices, body mass index z-score (zBMI), and waist circumference (WC) in a cohort of 212 African American adolescents (50.5% girls; $M_{age} = 15.16$ years). Participants were children and grandchildren of individuals enrolled in the Jackson Heart Study, a prospective epidemiologic evaluation of cardiovascular disease among African Americans based in Jackson, Mississippi. Youth zBMI and WC were primary outcomes, and caregivers completed the Child Feeding Questionnaire, an assessment of attitudes, beliefs, and practices related to obesity proneness. Regression analyses revealed that while controlling caregiver feeding practices were associated with zBMI and WC, perceived responsibility for the type and amount of food provided to adolescents was not related to weight status. Among younger adolescents, more oversight of their eating practices was related to higher zBMI. Similarly, boys whose intake of unhealthy foods was restricted were more likely to have

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higher zBMI and WC. Results suggest that caregiver feeding practices continue to be associated with weight status during adolescence, and underscore the importance of culturally and developmentally appropriate prevention and intervention efforts targeting overweight and obesity.

Keywords

overweight; obesity; adolescents; feeding; body mass index; waist circumference; Jackson Heart KIDS Pilot Study

1. INTRODUCTION

Overweight and obesity during adolescence predict obesity in adulthood, and predispose young people to long-term health consequences, such as cardiovascular disease, type 2 diabetes, and depression, all of which affect quality of life and lead to premature mortality (Ogden, Carroll, Lawman, Fryar, Kruszon-Moran, Kit, & Flegal, 2016; Pulgaron, 2013; Singh, Mulder, Twisk, van Mechelen, & Chinapaw, 2008). Prevalence rates of extreme obesity, which exacerbates risk of the abovementioned comorbidities, are disproportionately high among non-Hispanic Black youth, and can be linked to genetic, behavioral, and environmental (i.e., physical, social, emotional, economic) factors as well as their interactions (Ogden et al., 2016; Skinner & Skelton, 2014; Wang & Beydoun, 2007). Traditional prevention and intervention strategies address lifestyle practices such as dietary, activity, and sedentary behaviors (U.S. Preventive Services Task Force, 2017). However, the protracted individual and public health burden of overweight and obesity highlight the need for more efficacious approaches that are tailored to individual, family, and community contexts.

Parental caregivers play a critical role in the adoption of health behaviors by children and adolescents through modeling eating, physical activity, and sedentary behaviors as well as facilitating or limiting access to healthy choices (Birch & Davison, 2001; Golan & Crow, 2004). In particular, parenting style (Baumrind, 1991) has been shown to influence a child's eating behaviors. For instance, a systematic review of research examining parenting practices and child weight status found that children raised in authoritative households engaged in healthier behaviors (e.g., eating, physical activity) and had lower body mass indexes (BMIs) than their peers with parents employing other parenting styles (i.e., authoritarian, permissive, neglectful; Sleddens, Gerards, Thijs, de Vries, & Kremers, 2011).

An authoritative feeding style is one in which the caregiver determines which foods are offered, and the child decides how much to eat. In contrast, an authoritarian feeding style entails less child control regarding eating decisions. In general, African American parents are more likely to employ an authoritarian style, which has been thought to be a function of limited access to social and economic resources associated with quality of life or well-being (Murry, Brody, Simons, Cutrona, & Gibbons, 2008; Singh et al., 2008). Authoritarian parenting can be adaptive and protective in harsh socioeconomic environments, while also affecting feeding practices. Current convention suggests that the high level of control (e.g., restrictive or pressuring practices) over child feeding associated with authoritarian parenting increases risk for overweight and obesity, which may contribute to the high rates of

overweight and obesity among African American children and adolescents (Clark, Goyder, Bissell, Blank, & Peters, 2007; Hughes, Anderson, Power, Michel, Jaramillo, & Nicklas, 2006). Although the extent of control exerted in child feeding influences dietary habits in adulthood, the relation between caregiver feeding practices and weight outcomes tends to be studied in early childhood (Brown & Ogden, 2004). Few studies have examined the effects of caregiver feeding practices in adolescence (Kaur, Li, Nazir, Choi, Resnicow, Birch, & Ahluwalia, 2006) and even fewer have studied the impact parenting practices have on health outcomes among African American adolescents.

Adolescence can be the last chance for caregivers to directly influence lifelong eating patterns. Data from recent studies provide support for the idea that eating patterns are shared across generations as adolescents mimic the behaviors of their caregivers during their transition to adulthood (Brown & Ogden, 2004; Patrick & Nicklas, 2005). Ellyn Satter's *Division of Responsibility* (Satter, 2016) suggests that as children age, the responsibility for eating choices shifts from the caregiver to the child, with the caregiver trusting that the child independently will make healthy decisions. Developmentally, adolescents are seeking more autonomy and independence while also answering to increasing social pressures, which may conflict with messages endorsed by their caregivers (Silverberg & Steinberg, 1987). This search for independence may be manifested by rejection of caregiver feeding practices, as evidenced by a notable decline in the quality of food intake during adolescence (Demory-Luce, Morales, Nicklas, Baranowski, Zakeri, & Berenson, 2004; Whitaker, Wright, Pepe, Seidel, & Dietz, 1997).

Intergenerational transmission of eating behaviors also seems to be influenced by sex. Tiggeman and Lowes (2002) found that mothers more closely monitored girls' food intake as a means of controlling their weight; boys did not receive the same level of oversight. Similar to other reports, however, this study was conducted with mothers of 5–8 year old children. In a study of young adult's eating attitudes and behaviors, daughters and sons reported receiving differing messages from their caregivers as they were growing up (Baker, Whisman, & Brownell, 2000). It is important to extend our understanding of child feeding practices across the developmental span, particularly in adolescence. Considering the health risks associated with overweight and obesity among African American youth, it is especially important to evaluate behavioral eating characteristics that may be targets of efficacious, culturally relevant lifestyle intervention.

The aim of the present study was to examine the associations among caregiver feeding practices and child health outcomes in a sample of African American adolescents from the southern United States. Our primary hypothesis was that caregiver feeding practices would be correlated with adolescent weight indicators, namely BMI z-score and waist circumference. We also expected that age and sex would influence the magnitude of association among feeding practices and weight outcomes.

2. METHODS

2.1 Participants

Data for this study were drawn from the Jackson Heart KIDS Pilot Study (JHS-KIDS), a prospective feasibility study intended to examine the development of risk for obesity and cardiometabolic disease among a cohort of adolescents, and to provide insight into the biological, behavioral, and social transmission of risk across generations (Beech, Bruce, Crump, & Hamilton, 2016; Bruce et al., *in press*). Participants were 212 African American children and grandchildren of individuals enrolled in the Jackson Heart Study (JHS), a prospective epidemiologic evaluation of cardiovascular disease risk among African Americans based in Jackson, MS (Taylor, 2005; 2012; Taylor, Wilson, Jones, et al., 2005). Interested parents and grandparents contacted the study office and were screened to ensure eligibility (i.e., 12–19 years). Eligible participants and the caregiver accompanying them presented to the JHS-KIDS clinic site where they completed informed consent and assent forms. Adolescents completed a battery of self-administered surveys and had their height, weight, waist circumference, and blood pressure measured. The accompanying caregiver participated in a brief interview, underwent height, weight, and blood pressure measurements, and also completed a battery of self-report measures, which included the Child Feeding Questionnaire (Birch, Fisher, Grimm-Thomas, Markey, Sawyer, & Johnson, 2001). The study was approved by The University of Mississippi Medical Center Institutional Review Board.

2.2 Measures

Dependent variables—BMI z-score and waist circumference were the primary outcomes for this study. Adolescents' height and weight were used to calculate BMI and were collected by trained research personnel, using a Shorr Height Measuring Board (Olney, MD) and Seca 770 Model scale (Vogel and Halke, Hamburg, Germany), respectively. Participants removed their shoes and excess clothing (e.g., jackets, sweaters), and measurements were taken twice and averaged to ensure accuracy. In accordance with the Childhood Obesity Working Group of the International Obesity Taskforce, crude BMI was calculated ($\text{BMI} = \text{weight in kilograms} / \text{height in meters}^2$) and transformed to z-scores using the lambda-mu-sigma (LMS) method (Flegal & Cole, 2013; Vidmar, Carlin, Hesketh, & Cole, 2004). Using the 2000 Centers for Disease Control and Prevention Growth Charts as reference (Kuczmarski et al., 2002), z-scores (zBMI) were standardized by age and sex.

Waist circumference was measured in triplicate to the nearest tenth of a centimeter using a Tech-Med Model #4414 fiberglass measuring tape (Hauppauge, NY), and averaged for precision. After loosening or adjusting their own clothing, participants pointed to their navel to guide accurate measurement of their waist. Measurements were taken at the level of the navel while the participant stood, breathing normally.

Independent variables—The Child Feeding Questionnaire (CFQ; Birch et al., 2001) is 31-item self-report measure of caregivers' perceptions and concerns related to child obesity and their use of controlling feeding practices. The questionnaire comprises seven subscales, each rated on a corresponding 5-point (0–4) Likert-type scale. Subscale scores represent the

mean of each respective domain, with higher scores indicating greater endorsement of the domain: (1) *perceived responsibility*, 3 items measuring caregiver's perceived responsibility for quality and quantity of food served to their child; (2) *concerns about child weight*, 3 items measuring caregiver's concerns about child's risk for obesity; (3) *monitoring*, 3 items assessing caregiver oversight and tracking of child's intake of unhealthy foods (e.g., high fat snacks); (4) *restriction*, 8 items assessing caregiver's regulation of unhealthy foods (e.g., sweets) that may contribute to obesity risk; (5) *pressure to eat*, 4 items measuring caregiver insistence that their child eat enough food; (6) *perceived parent weight*, 4 items querying caregiver's perception of their own weight status; (7) *perceived child weight*, 6 items assessing caregiver's perception of child's weight status. The present study did not use the *perceived parent weight* or *perceived child weight* subscales. The remaining subscales demonstrated acceptable internal consistency (Cronbach's alphas range .71–.93).

Demographic variables—Basic demographic information was obtained in a brief interview conducted with the caregiver at the JHS-KIDS clinic site. Information obtained included child age, sex, race/ethnicity, and medical history. Additionally, caregiver's highest level of education completed and relationship to the adolescent participant were collected.

2.3 Statistical Analyses

All statistical analyses were conducted with Stata/SE 14. Means and standard deviations (for continuous variables) and proportions (for categorical variables) were used to describe the sample in total and by sex. T-tests and chi-square tests were used to assess variability by sex of independent and dependent variables included in multivariate analyses. Hierarchical multiple regression analyses were used to explore the association between child feeding practices and weight outcomes (i.e., zBMI, waist circumference), with inclusion of interaction terms to investigate hypothesized moderation effects of age. Models were conducted for the total sample and by sex. Significance level was set at $p < .05$ and all tests were two-sided.

3. RESULTS

Descriptive characteristics of the sample of African American youth and their caregivers are reported in Table 1. Girls (50.5%) and boys (49.5%) were represented equally in this sample and the average age was 15.16 years ($SD = 2.19$). When comparing girls and boys, there were no significant mean differences between study variables.

The majority of caregiver respondents were parents (70.3%) and women (86.5%), and more than half reported earning at least a college degree. With the exception of perceived responsibility ($M_{parent} = 2.90 > M_{grandparent} = 2.29$, $p < .001$), no mean differences between study variables were noted for parents and grandparents.

Although adolescent participants were, on average, in the normal range for BMI ($M_{zBMI} = 0.96$, $SD = 1.13$), mean BMI z-scores were very close to 1 standard deviation above the mean, which is the cut-point indicating overweight status. Mean waist circumference for girls and boys was 83.91 cm ($SD = 19.81$). Waist circumferences greater than 79 cm correspond with increased risk for cardiometabolic comorbidities among youth between the

ages of 12–20 years (Fernandez, Redden, Pietrobelli, & Allison, 2004; Savva, Tornaritis, Savva, et al., 2000; Zimmet, Alberti, Kaufman, et al., 2007).

As seen in Table 1, mean scores on Likert-type scales demonstrate that caregivers felt responsible for their child's eating decisions between half and most of the time and were somewhat concerned about their child's weight. On average, caregivers engaged in moderate restrictive and monitoring practices, and disagreed that they pressure their children to eat more food.

Results from overall and sex stratified regression analyses are reported in Table 2. The full models examining BMI z-score and waist circumference outcomes were significant and revealed that concerns, restriction, and pressure to eat were significantly associated with these weight status variables. Specifically, caregiver concerns and feeding practice restrictions were positively related to zBMI and waist circumference while pressure to eat was inversely related to the variables of interest.

The results for the sex-stratified analyses suggest that the impact of childhood feeding practices on weight-related outcomes vary by sex. Monitoring was inversely related to zBMI among girls ($\beta = -.22, p < .05$); an increase in parental oversight was related to a corresponding decrease in BMI z-score. Among boys in the sample, restriction of unhealthy foods was positively associated with zBMI ($\beta = .23, p < .05$) and waist circumference ($\beta = .22, p < .05$), suggesting that regulation of food choices was associated with poorer weight outcomes.

Interaction terms were added to the regression models to investigate the age as a moderator hypothesis. The two-way interaction examining whether age moderated the association between monitoring and zBMI was significant ($\beta = .91, p < .05$) and accounted for an additional 2% of the variance with large effect size ($R^2 = .28$, Cohen's $f^2 = .39$). These results are displayed in Figure 1. Figure 2 illustrates the significant interaction between concerns about the degree to which eating and age have implications for girls' waist circumference ($\beta = 1.27, p < .05$). This model explained 33% of the variance and demonstrated a large effect size (Cohen's $f^2 = .50$).

4. DISCUSSION

Overweight and obesity among African American youth are conditions associated with elevated risks for and early onset of debilitating chronic diseases. There is a marked need for culturally and developmentally tailored lifestyle intervention strategies that may ameliorate the morbidity and mortality associated with excess weight in adulthood. Adolescence is a critical period of development in which young people become increasingly autonomous in their lifestyle choices, and while adolescents may begin to adopt health practices not endorsed by their caregivers, eating patterns observed in young adults have strong linkages to the eating patterns of their parents (Baker, Whisman, & Brownell, 2000; Murashima, Hoerr, Hughes, Kattelman, & Phillips, 2012). Parental caregivers may still influence lifestyle behaviors throughout adolescence, and the transition to independence associated with eating behaviors may be more protracted among African American adolescents as

African American parents have been found to be more rigid and controlling in their feeding practices (Sherry, McDivitt, Birch, et al., 2004). Considering the important role that caregivers play, lifestyle interventions targeting eating behaviors should attempt to capitalize on any remaining caregiver-mediated impressionability of adolescent health behaviors in the hopes of influencing health practices in adulthood.

The present study is among the first to examine the associations among caregiver feeding practices and weight status in a sample of African American adolescents, and as hypothesized, findings revealed that caregiver feeding practices during adolescence were associated with BMI z-score and waist circumference. Specifically, caregivers who endorsed high levels of concern for risk of obesity and who were more restrictive of unhealthy foods were more likely to be parenting adolescents with elevated zBMI and waist circumference measurements; caregiver pressure to eat enough food was inversely related to weight status.

Findings of this study largely corroborate cross-sectional findings compiled in a recent systematic review of feeding practices (Hurley, Cross, & Hughes, 2011). Unlike previous reports, however, caregivers' feelings of responsibility for what or how much their adolescents ate was not associated with weight status, which is actually consistent with Satter's *Division of Responsibility in Feeding* (2016). This model suggests that caregivers should transfer the responsibility for eating choices to adolescents as they get older. Counter to Satter's theory, caregivers in this sample, on average, reported that they still perceived themselves to be responsible for their adolescents' intake of food. Even in a context of diminishing influence over their children's eating patterns, this level of perceived responsibility may be reflective of the authoritarian feeding style more typical among African American parents (Clark et al., 2007; Hughes et al., 2006). As previous research has tended to focus on white caregivers' perceived responsibility for younger children, these findings expand our understanding of how African American caregivers view their role in feeding adolescents.

Our results provide further support that age may be an important factor in how caregiver feeding practices influence weight status. In this sample of African American adolescents, increased oversight of food intake was related to higher BMI z-score among younger youth. In older adolescents, however, zBMI was not associated with caregiver monitoring, which is consistent with reports that demonstrated declining scores for monitoring, restriction, pressure to eat, and responsibility as children got older (Kaur et al., 2006). These data imply a preventive stance by caregivers to stave off overweight and obesity, especially when youth are younger, and perhaps more impressionable. As evidenced in a qualitative study exploring the challenges of parenting adolescents with overweight and obesity, caregivers are often frustrated with the diminishing control over eating behaviors as their children transition to adolescence (Boutelle, Feldman, & Neumark-Sztainer, 2012).

Among boys in the sample, restricted intake of unhealthy foods was associated with higher zBMI and waist circumference, which highlights the potential effects of caregiver feeding practices beyond weight outcomes. Researchers have reported that adolescent boys are particularly susceptible to engaging in unhealthy weight control behaviors when exposed to controlling feeding practices such as restriction (Loth, MacLehose, Fulkerson, Crow, &

Neumark-Sztainer, 2014). In contrast, girls whose eating patterns were more closely monitored tended to have lower BMI z-scores, and age moderated the association between concern for obesity risk and waist circumference among girls such that greater concern among older girls was associated with higher waist circumference. These findings suggest a gendered approach to caregiver feeding practices and indicate that there may be differential motivation to control eating behaviors. For example, while efforts to protect girls from gaining excess weight may be related to caregiver recognition of the importance of health, it is also possible that parental efforts are related to societal standards of attractiveness and desirability. Future research should investigate gendered messaging about eating behaviors, and especially how interactions differ based on gender match and mismatch among African American families (i.e., mother/daughter, father/son, mother/son, father/daughter).

4.1 Limitations

The present study contributes to a scant literature on caregiver feeding practices among African American adolescents using an offspring cohort associated with the Jackson Heart Study. Mississippi is situated in the epicenter of obesity in the United States, and rates of adolescent obesity are particularly high (Kann, McManus, Harris, et al., 2016). While the focus on African American adolescents from a particular geographic region is a strength of this study, it does limit the generalizability of findings beyond the southern United States. Furthermore, the cross-sectional design of this study does not allow for causal inferences to be drawn from the results. As such, dual interpretations of the observed relations must be considered; adolescent weight status may be a cause or effect of caregiver feeding practices in this sample. Finally, the main variables of interest were obtained from a single source: self-report questionnaires completed by caregivers, which may offer biased views of how caregivers interact with their children about food and raises concerns of common method variance. Moreover, this study did not assess whether the reporting caregiver was a primary caregiver.

While parent and grandparent reports of feeding practices were overwhelmingly consistent in the present study, parents did endorse greater perceived responsibility for food provided to the adolescent, suggesting that grandparents may engage in more informal caregiving. The limited literature on grandparent feeding practices suggests that grandparents engage in more maladaptive feeding practices (Eli, Howell, Fisher, & Nowicka, 2016), though there is a positive association with time spent providing care and adaptive practices (Farrow, 2014). As with much of the research in this domain, studies have tended to focus on younger children. Future studies should explore the role of grandparent caregiving in feeding practices among adolescents.

When interpreting these results, it is important to acknowledge some important characteristics of the sample. First, the adolescents comprising this sample did not, on average, have overweight or obesity. However, the increased waist circumference of these young people is concerning. Larger waist circumference suggests central storage of visceral fat, which is strongly associated with increased risk for type 2 diabetes and cardiovascular disease (Despres, 2001). Even at a healthy BMI, central adiposity is a risk factor for morbidity and mortality, especially among African Americans (Camhi et al., 2011). A

second notable characteristic is that more than half of the caregivers were college graduates. Previous research has demonstrated an inverse relation between level of caregiver education and child weight outcomes (Lamerz, Kuepper-Nybelen, Wehle, et al., 2005; Ogden, Lamb, Carroll, & Flegal, 2010) that may explain the relative normalcy of this sample's BMI z-scores. In terms of feeding practices, education is associated with income, and caregivers in more affluent environments tend to be more authoritative in their feeding practices, which equates to less controlling behaviors.

4.2 Conclusions

Caregivers often look to health care providers for guidance in management of their child's weight and findings of this study provide insights for the development of prevention and intervention strategies targeting adolescent overweight and obesity. Results from this report suggest that dietary and behavioral counseling focusing on feeding practices among African American caregivers should be tailored for age and sex of the youth. Future research should examine the role of culture in caregiver feeding patterns, as differences may be related to traditions, values, and priorities. Even though adolescents are at the cusp of adulthood, providers are encouraged to include caregivers in treatment of adolescents, as their contributions may continue to affect weight outcomes.

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Highlights

- African American caregiver feeding practices influenced adolescent weight status.
- Age and sex moderated the relationship between caregiver feeding practices and weight status.
- In younger adolescents, more oversight of eating practices was related to higher body mass index (BMI).
- Boys whose intake of unhealthy foods was restricted had worse weight outcomes.
- Greater concern for girls' weight was associated with higher waist circumference.

Figure 1.
Interaction Plot: BMI z-score on Monitoring X Age

Figure 2.
Interaction Plot: Waist Circumference on Concerns X Age (Girls)

Table 1

Demographic and Study Variables for Full Sample and Stratified by Sex

	Total (N = 212) <i>M (SD) or %</i>	Girls (n = 107) <i>M (SD) or %</i>	Boys (n = 105) <i>M (SD) or %</i>	<i>p</i> - value
Demographics				
Age	15.16 (2.19)	15.17 (2.14)	15.14 (2.24)	0.53
Caregiver Education				0.63
Less than High School	1.4%	<1%	1.9%	
High School Graduate	18.9%	16.8%	20.9%	
Some College	22.1%	19.6%	24.8%	
College Graduate	33.94%	37.4%	29.5%	
Graduate Education	24.1%	25.2%	22.9%	
Respondent				0.95
Parent	70.3%	70.1%	70.5%	
Grandparent	29.7%	29.9%	29.5%	
Dependent Variables				
BMI z-score	0.96 (1.13) ^a	0.98 (1.09) ^b	0.94 (1.18) ^c	0.58
Waist Circumference (cm)	83.91 (19.81)	85.34 (21.45)	82.45 (17.98)	0.86
Independent Variables				
Responsibility ^d	2.72 (1.16)	2.59 (1.19)	2.85 (1.12)	0.05
Concerns ^e	1.81 (1.41)	1.98 (1.43)	1.65 (1.40)	0.95
Monitoring ^f	2.15 (1.09)	2.12 (1.11)	2.19 (1.06)	0.31
Restriction ^g	2.62 (0.78)	2.58 (0.77)	2.66 (0.79)	0.23
Pressure to Eat ^g	1.32 (1.18)	1.33 (1.38)	1.31 (0.98)	0.56

Note.

^a*M*_{BMI} %-ile = 83.15;^b*M*_{BMI} %-ile = 83.65;^c*M*_{BMI} %-ile = 82.64;^d0 = never responsible, 4 = always responsible;^e0 = unconcerned, 4 = very concerned;^f0 = never, 4 = always;^g0 = agree, 4 = disagree

Table 2

Summary of Regression Analyses for Variables Associated with Weight Status

Independent Variables	Dependent Variables					
	BMI z-score			Waist Circumference (cm)		
	Total Sample	Girls	Boys	Total Sample	Girls	Boys
	β (SE)	β (SE)	β (SE)	β (SE)	β (SE)	β (SE)
Sex	.03 (0.14)	---	---	-.04 (2.38)	---	---
Respondent	-.02 (0.16)	-.01 (0.23)	-.00 (0.24)	.05 (2.72)	.05 (4.59)	.02 (3.46)
Education Level	.04 (0.07)	.10 (0.10)	-.01 (0.10)	-.04 (1.16)	-.10 (2.04)	.01 (1.43)
Age	-.00 (0.03)	-.07 (0.05)	.08 (0.05)	.22 (.57)	.12 (0.94)	.30 (0.73) *
Responsibility	-.01 (0.08)	.08 (0.11)	-.07 (0.11)	-.05 (1.30)	-.12 (2.17)	.02 (1.62)
Concerns	.41 (0.06) *	.49 (0.08) *	.32 (0.08) *	.38 (.96) *	.39 (1.53) *	.38 (1.22) *
Monitoring	-.09 (0.08)	-.22 (0.11) *	-.01 (0.11)	-.02 (1.31)	-.00 (2.13)	-.03 (1.63)
Restriction	.17 (0.11) *	.13 (0.14)	.23 (0.17) *	.20 (1.80) *	.18 (2.82)	.22 (2.43) *
Pressure	-.26 (0.07) *	-.30 (0.09) *	-.24 (0.11) *	-.25 (1.23) *	-.31 (1.89) *	-.19 (1.64) *
F	8.05 *	6.15 *	3.74 *	9.84 *	5.38 *	5.80 *
R ²	.26	.33	.24	.30	.31	.33
Cohen's f^2	.35	.49	.32	.43	.45	.49

Note. Sex: 0 = girl, 1 = boy. Respondent: 0 = parent, 1 = grandparent.

* $p < .05$