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Stressed out and overcommitted! The relationships between time demands and family rules and parents' and their child's weight status

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Abstract

Objective—To determine the relationship between parent time demands and presence and enforcement of family rules and parent/child dyad weight status.

Methods—Dyads of one child/parent per family (n=681 dyads), Twin Cities, Minnesota, 2007–2008 had measured height/weight and a survey of demographics, time demands and family rules-related questions. Parent/child dyads were classified into four healthy weight/overweight categories. Multivariate linear associations were analyzed with SAS, testing for interaction by work status and family composition (p<0.10).

Results—In adjusted models, lack of family rules and difficulty with rule enforcement were statistically lower in dyads in which the parent/child was healthy weight compared to dyads in which the parent/child was both overweight (Difference in family rules scores=0.49, p=0.03; difference in rule enforcement scores=1.09, p<0.01). Of parents who worked full-time, healthy weight dyads reported lower time demands than other dyads (Difference in time demands scores=1.44, p=0.01).

Conclusions—Family experiences of time demands and use of family rules are related to the weight status of parents and children within families.

Keywords

adult; child; weight status; time demands; family rules

Introduction

Obesity is well recognized as a major public health concern. Obesity rates have been rising over the past several decades in the United States, with approximately one-third of youth and two-thirds of adults deemed overweight or obese (Ogden, Carroll et al. 2006). If current trends continue, by 2030 the prevalence of overweight children will nearly double and over half of adults in the United States will be obese (Wang, Beydoun et al. 2008). Although many causes and correlates of obesity have been identified, prevention of obesity or reversal of the rising trend remains a complex and multifaceted challenge. One level of influence, the family unit, has been shown to have an important effect on childhood obesity (Birch and Davison 2001; Seo and Sa 2009). Parents influence their children's physical activity and food consumption behavior by structuring the food and physical activity environment (Seibold, Knafel et al. 2003; Golan and Crow 2004; Anderson and Whitaker 2010; Lytle, Hearst et al. 2010) and modeling both healthy and unhealthy energy balance behaviors (Fogelholm, Nuutinen et al. 1999; Wagner, Klein-Platat et al. 2004; Lindsay, Sussner et al.

2006). Yet, providing a healthy home environment can be challenged by family demands and the effort needed for creating and enforcing family rules related to activity and eating patterns (Lytle, Hearst et al. 2010).

Time scarcity (feelings of not having enough time) has been shown to be associated with changes in a family's food consumption patterns, such as a decrease in home food preparation and family meals (Rovner, Mehta et al.; Devine, Farrell et al. 2009; Gaina, Sekine et al. 2009) and an increase in the consumption of fast foods (Rydell, Harnack et al. 2008) and convenience or prepared foods (Jabs and Devine 2006), both of which are associated with weight gain and obesity (French, Story et al. 2001; Guthrie, Lin et al. 2002). Contributing to the challenge for parents are structural work conditions, such as schedule or work hours (Blake, Devine et al. 2009; Devine, Farrell et al. 2009; Gaina, Sekine et al. 2009), and the unique stress and time demands of being in a dual- versus single-parent household (Jacobs and Berson 2001). It has been shown that work conditions are associated with food choice coping skills related to unhealthy weight gain, such as grabbing quick foods instead of a meal, overeating after missing a meal, and eating in the car (Devine, Jastran et al. 2006; Devine, Farrell et al. 2009). Parents view stressful work conditions, along with household activities, as barriers to their ability to fulfill valued family food roles (Blake, Devine et al. 2009; Wurbach, Zellner et al. 2009). Similarly, being a single parent is a major source of stress that affects food choices (Devine, Jastran et al. 2006; Huffman, Kanikireddy et al. 2010), particularly among single employed mothers (Jabs and Devine 2006).

Some research shows that families that have rules around media and food, such as restricting television watching during dinner or consumption expectations, have youth that report eating healthier meals (Feldman, Eisenberg et al. 2007; Haerens, Craeynest et al. 2008; Verzeletti, Maes et al. 2010; Verzeletti, Maes et al. 2010) and that youth that watch fewer hours of television during the day have lower risks of obesity (Crespo, Smit et al. 2001; Granich, Rosenberg et al. 2010; Hoyos Cillero and Jago 2010). However, little is known about how modern day families negotiate their desire to have family rules around eating and activity and successfully enforce them in light of very busy and complicated work, professional, and family lives and how their success may be associated with their weight. It makes intuitive sense that since two-thirds of US adults are overweight that many parents might struggle with their own weight and feel conflicted about food and activity issues that emerge in their families. Little is known about how the weight status of the parent and child (healthy or overweight) may be differentially associated with levels of time demands and family rules related to food and activity issues that emerge in the families. For example, do healthy weight parents feel more or less pressure and need for rules about family food and activity issues if they have children that are overweight?

The purpose of this paper was to examine how time demands and family rules related to food and meal time may vary by households according to the weight status of the parent and child. We hypothesize that time demands, the existence of family rules and difficulty enforcing rules will be differentiated by the weight status dyads of parents and child in the family, with the highest levels of time demands and lack of rules expected in families where both the parent and child are overweight and the lowest levels of time demands and lack of family rules in families where both the parent and child are at a healthy weight. We expect that enforcing rules around diet and physical activity is more challenging for overweight parents of overweight children because s/he may have a more difficult time than a normal weight parent role modeling healthy eating. Additionally, we expect that the association will be stronger among parents who work full time or whose family structure (single parent household) adds additional constraints. Determining the relationship between time demands and family rules and weight status will contribute to the ability to create effective and

tailored intervention strategies that can be implemented with families to address the obesity epidemic in the US.

Methods

Study sample

Data for this study came from two independent cross-sectional samples of adolescents and one of their parents who took part in either the IDEA (Identifying the Determinants of Eating and Activity) or ECHO (Etiology of Childhood Obesity) cohort studies, located in the Twin Cities Metropolitan Area, Minnesota. Both IDEA and ECHO are 3-year longitudinal studies aimed at understanding the social and environmental influences on unhealthy weight gain during adolescence (Lytle 2009). Data for this analysis were collected in 2007–2008 as part of baseline data collection.

IDEA youth were recruited from a preexisting cohort (Widome, Forster et al. 2007), a permit application listing from the Minnesota Department of Motor Vehicles, and a convenience sample from the Minneapolis/St. Paul metropolitan area. Participants in the IDEA study (n=332) were adolescents (ages 12.0–18.7 years) and parents/guardians living in the Twin Cities Metropolitan Area, Minnesota (one parent/guardian per adolescent).

The ECHO study (n=374) data were also collected on adolescents (ages 11.0–17.6) and one parent/guardian from the same catchment area as the IDEA study. The participants were recruited from the membership of HealthPartners® health plan from within the seven-county metropolitan area of Minneapolis/St. Paul, Minnesota. The recruitment strategy was designed to recruit a racially-diverse sample of adolescent/parent dyads that represented both healthy weight and overweight individuals.

Additional sampling and recruitment for both studies are detailed elsewhere (Dengel, Hearst et al.; Heitzler, Lytle et al.; Lytle 2009). The IDEA and ECHO studies collected the same measures on all participants and there was no overlap in participants between the two studies. Combining data from the two studies provided a larger sample that resembled the ethnic composition of the larger population. Recruitment for both studies resulted in multiple adolescents per school; therefore, clustering by school was included in the analytic phase. All study protocols were approved by the University of Minnesota Institutional Review Board.

Measures

Adolescent and parent height and weight were measured by trained staff during a clinic visit using a Shorr height board (Irwin Shorr, Olney, MD), and weight and body composition (percent body fat) using a Tanita scale which is a bioelectrical impedance device that assesses body weight, lean and fat mass (Tanita TBF-300A Body Composition Analyzer, Arlington Heights, IL). For the adolescents, BMI percentiles were derived from data from the Centers for Disease Control and Prevention Growth Charts (Kuczmarski, Ogden et al. 2002). Adolescents with BMI percentiles \geq 85th percentile were characterized as overweight/obese. For the parents, overweight/obese defined as BMI \geq 25 kg/m².

A variable was created to represent the parent and adolescent dyad weight status as overweight/obese and healthy weight. The four categories included overweight parent/child (P-OW/C-OW); overweight parent/healthy weight child (P-OW/C-HW); healthy weight parent/overweight child (P-HW/C-OW) and healthy weight parent and child (P-HW/C-HW).

At the same visit, parents completed a self-report survey that included parent demographics and socioeconomic status, and a set of questions written for the IDEA and ECHO etiologic

studies to explore the role of perceived time demands, the existence of family rules around meal time, and perceived difficulty enforcing rules on energy balance. Internal consistency of the scales and construct validity of the scales was previously described (Lytle, Hearst et al. 2010). A brief description of the scales follows.

The summative *Time Demands scale* comprises nine questions with four response categories ranging from strongly disagree to strongly agree. Parents were asked to respond to the following types of statements: “I feel too busy with work or other demands”; “If I was less busy, I would be able to help my child make healthier food choices”; and “If I was less busy, I would be able to be more physically active.” Internal consistency for this analytic sample had Cronbach alpha=0.83. Higher scores reflect a perception of more time demands.

The summative *Lack of Family Rules scale* comprises four questions with four response categories ranging from strongly disagree to strongly agree. Parents were asked to respond to the following statements: “We have rules about what/when children eat”; “We have family rules about time spent on TV/Video games”; “When I was a child, my parents enforced rules about TV watching”; and “When I was a child, my parents enforced rules about what/when I ate.” Internal consistency for this analytic sample had Cronbach alpha=0.66. Higher scores reflect fewer family rules.

The summative *Difficulty with Rule Enforcement scale* comprises five questions with the same four response categories as the other scales. Parents were asked to respond to the following types of statements: “It is difficult for me to enforce rules about what/when my child eats”; “It is difficult for me to enforce rules about time spent on TV or video games”; and “When I feel like I’ve disappointed my child, I’m more likely to give into requests for treats.” Internal consistency for this analytic sample was Cronbach alpha=0.81. Higher scores reflect more difficulty with rule enforcement.

Adolescents completed written surveys under the direction of trained study staff during the same clinic visit as the parent survey and assessment of weight and body composition. Specifically for this analysis, adolescents provided their birth date and sex. Other sociodemographic characteristics, including free or reduced cost lunch, parent education (recoded as ‘college’ and ‘less than college degree’), and parent race (recoded as ‘white’ versus ‘other’) were retrieved from the parent survey.

Analysis

All data analyses were conducted using SAS for Windows, version 9.2 [SAS Institute Inc., SAS/STAT, SAS Institute Inc., Editor. 2002–2003: Cary, NC.]. The sample description used proportions and mean distributions, tested for differences by parent/child weight dyad for categorical variables with chi-square statistic and SAS PROC GENMOD to test for mean differences in time demands and family rules scales by parent/child weight dyads. Because children were nested within families which were nested within schools, we took a conservative approach and adjusted for sampling-related clustering at the school level using generalized estimating equations as these models are more robust to misspecification of the correlation pattern. Second, we tested interaction effects ($p < 0.10$) of parent work status and single versus dual parent households with the relationship between parent/child weight statuses and time demands and family rules scales. The p-value was chosen at $p < 0.10$ because of the number of strata in each interaction test and subsequent number of participants in each strata, for example, 4 dyad groups and three levels of employment. Adjusted models included study (IDEA or ECHO), if the child received free or reduced cost lunch, parent college education, parent race, adolescent gender and adolescent age.

Results

Sample characteristics are shown in Table 1. Our sample had more white and college educated participants compared to the target population ((White: sample=92%, Twin Cities=76%), (College education: sample=65%, Twin Cities=35%)) (Metropolitan Council 2010)). The parent sample was comprised of 79% women, 21% men. Over 60% of parents worked a full time job, 25% were part time and 13% were not working. One-quarter of the adolescents and 58% of the parents were overweight or obese. The three time demands and family rules scales were centered within the available range with good dispersion. Differences were present across the four weight status dyads for free or reduced cost lunch ($\chi^2=14.8, p\text{-value}=0.002$); college education ($\chi^2=24.8, p\text{-value}<0.001$); and white race ($\chi^2=37.9, p\text{-value}<0.001$); working status ($\chi^2=14.9, p\text{-value}=0.02$) and household composition ($\chi^2=9.1, p\text{-value}=0.03$). These were not the primary interest in this analysis, so were added as covariates.

The time demands and family rules scores were significantly ($p<0.05$) higher among overweight parents/overweight children dyads in comparison to healthy weight parent/healthy weight child dyads (Table 1). These findings persisted in multivariate regression analysis (Table 2). In multivariate adjusted models mean scores for lack of family rules and difficulty with rule enforcement were significantly lower in healthy weight parent/child (P-HW/C-HW) compared to overweight parent/child dyads (P-OW/C-OW) Difference in family rules scores=0.49, $p=0.03$; difference in rule enforcement scores=1.09, $p<0.01$, respectively. Difficulty enforcing family rules was also lower in the dyad in which the parent was overweight, but the child was at a healthy weight (P-OW/C-HW) compared to dyads in which the parent and child were both overweight (P-OW/C-OW) (Difference in family rules scores=0.81, $p=0.01$). Household composition was not a significant modifier ($p>0.10$) In contrast, parent work status interaction was significant ($p=0.08$). To summarize results from the stratified analysis (see Table 3), in households where the parent respondent works full-time there was a statistically significantly lower mean level of reported time demands among healthy weight parents/child dyads (P-HW/C-HW) (1.44 points lower, $p=0.01$); overweight parents and healthy weight children (P-OW/C-HW) (1.18 points lower, $p=0.04$) and healthy weight parents and overweight children (P-HW/C-OW) (1.44 points lower, $p=0.05$) compared to overweight parents/child dyads (P-OW/C-OW). No other stratum specific associations were found.

Discussion

This study assessed differences in time demands, lack of rules and difficulty with rule enforcement around food and physical activity by the weight status of parent/child dyads. Overweight parents with overweight children reported fewer rules and greater difficulty with rule enforcement compared to healthy weight parents with healthy weight children. Reported time demands were higher among overweight parent/child dyads compared to healthy weight parent/child dyads in households where the parent respondents reported working full-time.

Our findings that more reported time demands, lack of rules, and difficulty with rule enforcement, which contributes to family stress, were greater by overweight parents of overweight children corroborated the findings of a study conducted by Block, et al (Block, He et al. 2009). Block et al examined the association of psychological stress and weight gain among adults using a nationally representative longitudinal cohort in the United States. The author's found that weight gain among both men and women was positively associated with work and financial stress. Notably, family and life stress were unique factors related to women's weight gain, a relevant parallel as the majority of the adults in the current study

were female. (Block, He et al. 2009). Parents in the Block et al study reported often feeling tired, stressed or busy due to competing work and family demands (Block, He et al. 2009). The parents in our study also reported competing demands on their time. According to our findings, although overweight parents of overweight children reported the highest level of competing demands, healthy weight parent/child dyads also reported time demands.

The Transactional Model of Stress and Coping (Glanz and Schwartz 2008) provides a framework for considering how parents cope with time demands and family rules, thus impacting their appraisal of and actual health behavior. As such, feelings of 'time scarcity' have been shown to be associated with negative food choices in families (Devine, Jastran et al. 2006; Jabs and Devine 2006; Blake, Devine et al. 2009). A tired, working parent may not have the time or energy to prepare a healthy home-cooked meal. For example, according to theory, parents recognize the stress related to time demands and the demands of meal preparation (primary appraisal) and assess their coping resources and options available (secondary appraisal) (Glanz and Schwartz 2008). A possible behavioral result of these appraisals is the purchasing of fast or convenience foods for meals to cope with the stress of time demands. As Jabs and Devine (Jabs and Devine 2006) describe, the fast food and restaurant industry has responded to consumer time scarcity by designing convenient and quick, and most often unhealthy meals. This represents a great opportunity for policy and practice interventions with the food service industry in making healthy, quick options available and helping consumers make more informed decisions.

In this study, the time demands scale was comprised of questions that asked parents about being too busy, having a lack of balance, too many demands on time, and, subsequently, having less time to be able to support and engage in healthy weight-related behaviors for both themselves and their children. Related research has shown that nearly 2/3 of parents from the IDEA and ECHO cohort reported eating three to six family meals per week, with half of the families reporting purchasing take-out food at least once per week for a family meal (Fulkerson, Farbakhsh et al. *in press*). Yet, it is also known that a mother's work status, in particular, affects the frequency of family meals which is known to be associated with healthier dietary patterns (Blake, Devine et al. 2009; Fertig, Glomm et al. 2009), with full-time working mothers having fewer family meals than those who work part-time, who in turn have fewer than those who are not employed (Neumark-Sztainer, Wall et al. 2003; Gaina, Sekine et al. 2009). This study showed that among families where the parent reported working full-time overweight parent/child dyads reported higher time demands than healthy weight parent/child dyads, overall. No differences in family time demands were found across weight status dyads in households where the parent responded reported working part-time or reported not working supporting the hypothesis that time demands lead to differential behavior patterns.

It is likely that some parents cope with the additional family time demands of full time work differently, leading to unhealthy food and activity patterns that are then also modeled for the child. Additional research is needed to consider perceived versus real time demands and how parent and child behavior is affected. If time constraints due to full time work are real, public policy efforts may be needed to allow parents time to prepare and properly feed their families or enhance and improve access to healthy prepared and fast food options. If the time constraints are perceived as the America's Use of Time Survey suggests (Bureau of Labor Statistics 2010) (e.g. most common leisure activity is watching TV at 2.8 hours per day), a focus on time management, planning and organization may be the most important approach to change behavior. Parents who use TV as a form of stress reduction could be introduced to alternative options, such as reading or yoga and meditation. The effectiveness of weight loss programs for youth could potentially be improved by also including a parent

component for time management, planning and organization related to exercise and meal planning.

Lack of family rules scores were significantly higher for overweight parents/child dyads compared to normal weight parent/child dyads. As with all cross-sectional analyses, directionality of this relationship was not ascertained; however, perhaps the lack of family rules related to activity and food patterns was the reason for the observed difference by weight status. Meaning, families who lack rules and guidelines about activity and food are more likely to engage in behaviors that contribute to unhealthy weight gain, such as more screen time (Carlson, Fulton et al.) and perhaps fewer rules about intake, such as not enforcing milk drinking during dinner and consumption of vegetables and fruit (Lytle, Hearst et al. 2010; Verzeletti, Maes et al. 2010). In Lytle and Hearst, et al (2010) the relationship between presence and enforcement of family rules and child weight status among their overweight parents was mediated by positive family meal practices, including serving milk, fruits and vegetables and family meals on most days, but was not present among healthy weight parents (Lytle, Hearst et al. 2010). Meaning, there are mutable parent behaviors around mealtimes that can be supported to improve the weight of children and likely parental weight status as well.

Two items in the family rules scale relate to the types of rules the parents had as children. These items were created specifically for this study to capture how the establishment of rules about what to eat or time spent on TV or video games to some extent reflect rules that were established in the adults' family of origin. Therefore, healthy parenting patterns have the potential for long term and multigenerational behavior change as the rules of childhood may pass onto the next generation. The important facet here is to reinforce and support parents in establishing and maintaining a healthy and positive food and activity environment in the household regardless of the parent's childhood rules.

This study found that overweight parents of overweight children had more difficulty enforcing diet and physical activity related rules compared to overweight parents of normal weight children and normal weight parents of normal weight children. Overweight children may be more resistant to diet and physical activity rules or alternatively, perhaps parents of overweight children work harder to enforce rules, and are more likely to report difficulty with rule enforcement. Parents with competing time demands may feel guilty they are not able to spend as much time with their children as they would like; therefore, they give in to requests in order to not make the time they do have together contentious. Of note, adolescents were not asked their perceptions of time demands or family rules. Future research may also consider exploring the role of parenting style in family rule setting. An authoritative parenting style, characterized by the use of moderate amounts of restrictiveness, high levels of warmth and responsiveness, expectations of mature behavior, reasonable limit setting, and attentiveness to children's needs, (Parke and Buriel 1998), has been associated with reduced risk across many obesity-related outcomes (Berge 2009). As such parenting style may play a role in the rule setting behavior of parents; however, time demands may influence how well rules are enforced. Future qualitative and survey research is needed to better understand the nuances of parent decision making and behaviors as well as adolescent perceptions that were not elucidated in our study.

This study had some limitations. The most important limitation was that the data was cross-sectional and neither directionality nor cause could be ascertained with certainty. It was not determined if families experiencing more time demands and fewer family rules eat more poorly and gain weight or that parents who were overweight were more stressed due to time demands and lacked family rules and thus made poorer food decisions for themselves and their children. It is not known if the findings from this study were generalizable or specific

only to this sample. Future studies should explore this question longitudinally. The findings are a result of the variables used. As such, we did not consider other environmental factors such as food insecurity, the home media environment, the age composition of all children in the household, managing multiple jobs or other relevant conditions of the employment status of the parents or other responsibilities or other behaviors, such as sleep duration. We also did not include eating patterns at school. In addition, the majority of our parents were female, white and educated which limits generalizability to the entire parent population. Finally, the dyads were created using one parent weight, meaning that the other parent may have been the opposite weight category. However, with two-thirds of adults in the United States overweight, the likelihood of comparable weight status categories of the two parents was likely.

Conclusion

In general, all families need support to focus on healthy ways to manage time, planning and organization. However, this study highlighted the importance of targeted intervention for households with different parent/child weight status dyads. Thus, consideration should be given to address the issues of behavioral response to time demands and family rules as a part of obesity treatment intervention, in particular in households where the parent and child are overweight. Policies, social and structural factors also need to be examined, including commute time, access to quick and healthy food options, and examination of evening scheduling of activities for children. One of the first next steps will be to learn, both qualitatively and quantitatively, from families who are successfully managing time demands and family rules, jobs, children and their weight.

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Table 1

Characteristics of total sample and by parent and child weight status dyad.

N=681	Overweight Parent & Child N=126	Healthy Weight Parent/Overweight Child N=50	Overweight Parent/Healthy Weight Child N=267	Healthy Weight Parent & Child N=238	Chi-square (p-value)
Adolescent characteristics					
Age, mean(SD)	16.4 (1.7)				
Male, %	57.1	44.0	48.7	45.4	5.1 (0.17)
Receive free or reduced cost lunch, %	19.8	14.0	10.5	6.7	14.8 (0.002)
Overweight/Obese, %	-	-	-	-	-
Parent/guardian characteristics					
College education, %	48.8	77.6	68.5	68.9	24.8 (<0.001)
White race, %	80.2	96.0	92.5	97.9	37.9 (<0.001)
Work status, %					
Full Time	71.4	64.0	63.7	54.6	14.9 (0.02)
Part Time	15.1	28.0	23.6	31.9	
Not Working	13.5	8.0	12.7	13.5	
Dual parent HH, %	73.0	78.0	78.7	85.7	9.1 (0.03)
Overweight/Obese, %	-	-	-	-	-
Time demands and family rules Scales*					
Time Demands, mean (SD)	20.5 (3.8)	20.7(3.5) ^{ab}	20.5 (4.0) ^b	20.1 (3.5) ^b	
Lack of Rules, mean (SD)	9.7 (2.1)	9.7 (1.8) ^{ab}	9.9 (2.1) ^a	9.5 (2.0) ^b	
Difficulty with Rule Enforcement, mean (SD)	12.6 (2.8)	12.6(2.5) ^{ab}	12.6 (3.0) ^b	12.3 (2.5) ^b	

* columns with same letters in superscript are not significantly different

Table 2Differences in lack of family rules and difficulty enforcing rules scores by parent and child weight status^a

	Lack of Family Rules			Difficulty Enforcing Rules		
	Beta	SE	p-value	Beta	SE	p-value
Parent/Child Weight Status /						
P-HW/C-OW	-0.11	0.28	0.70	-0.70	0.43	0.10
P-OW/C-HW	-0.09	0.23	0.69	-0.81	0.33	0.01
P-HW/C-HW	-0.49	0.22	0.03	-1.09	0.34	<0.01
P-OW/C-OW	Ref			Ref		

/ P-HW= Parent, healthy weight; C-HW=Child, healthy weight; C-OW=Child, overweight; P-OW=Parent, overweight

^a Values were obtained using multiple linear regression adjusted for child age, child sex, free/reduce price lunch status, parent education level, race of child, parent work status, dual versus single parent household, and study sample

Table 3
Differences in time demand scores by parent and child weight status within stratum of parent work status^a

	Full Time Working			Part Time Working			Not Working		
	Beta	SE	p-value	Beta	SE	p-value	Beta	SE	p-value
Parent/Child Weight Status /									
P-HW/C-OW	-1.44	0.74	0.05	1.45	1.22	0.23	0.10	2.43	0.97
P-OW/C-HW	-1.18	0.57	0.04	1.51	0.92	0.10	-0.88	0.81	0.28
P-HW/C-HW	-1.44	0.56	0.01	0.65	0.89	0.47	-0.10	0.87	0.91
P-OW/C-OW	Ref			Ref			Ref		

/ P-HW= Parent, healthy weight; C-HW=Child, healthy weight; C-OW=Child, overweight; P-OW=Parent, overweight

^a Values were obtained using multiple linear regression adjusted for child age, child sex, free/reduce price lunch status, parent education level, race of child, dual versus single parent household, and study sample