

Race/Ethnicity, Acculturation, and Sex Differences in the Relationship between Parental Social Support and Children's Overweight and Obesity

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Abstract: In the present study we use the 2007 National Survey of Child Health to examine whether parental social support is associated with children's overweight/obesity and if this relationship is moderated by race/ethnicity, acculturation, and/or parent's sex. Results reveal that Hispanics (English and Spanish-speaking) and African Americans have considerably higher rates of child overweight/obesity and are less likely to have social support with parenting than Whites. Social support emerged as a significant predictor of overweight/obesity only for English-speaking Hispanic fathers. However, the magnitude of this effect was substantial. English-speaking Hispanic fathers were more than twice as likely as White fathers to have an overweight/obese child, but with social support, the odds declined by 80%. Findings suggest a need to understand better how race/ethnicity and acculturative stress shape fathers' parenting practices and how social support serves to buffer these strains.

Key words: Race/ethnicity, social support, children, overweight, obesity.

The nationwide epidemic of pediatric obesity is more prevalent among Hispanic and African American children than White children and for more acculturated Hispanics than for recent immigrants.¹⁻² Consequently, minority children, particularly more acculturated Hispanic children, are more vulnerable than the general population to lifelong obesity, chronic obesity-related illnesses, and early mortality.^{2,3}

It is not surprising that Hispanics and African Americans have higher rates of childhood obesity than Whites given that the context in which parents raise their children varies by race/ethnicity. In a review of the literature, Kumanyika and Grier reveal that environmental risk factors for obesity are more prevalent, and in some cases, more influential for low-income minorities than for Whites.² Specifically, Hispanics and African Americans have lower levels of education and income, less access to quality health care, and are more likely to reside in resource-poor neighborhoods (e.g., food deserts) than Whites.^{2,4,5} These characteristics reduce minorities' access to information

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about nutrition, exercise, and the risks of overweight and obesity, and reduce their opportunities to engage in healthy behaviors.^{2,6}

While these socio-demographic correlates increase the risk of obesity, Latino cultural preferences for heavier weights pose additional risks. Latino parents tend to perceive overweight babies as healthy babies, see their children as thinner than they actually are, and do not stigmatize overweight because they view having a large body as indicative of a successful lifestyle or not being ill.^{2,7,8}

An important, but less understood factor affecting obesity is acculturation. Research reveals that among the Hispanic population, more acculturated Hispanics have higher rates of obesity than less acculturated Hispanics.⁹ As Latino immigrants spend more time in the United States, they adopt American lifestyles, behaviors, and social norms (e.g., a lot of television viewing, high intake of sugary foods) that promote weight gain and obesity.^{10,11} In addition, several scholars have recently drawn attention to the issue of acculturation stress for Latino/as, and its detrimental effect on health.^{11,12} Acculturation stress is distinct from acculturation and includes language barriers, perceived discrimination, racism, loss of values, and a decline in social supports.¹³ These stressors have not been empirically connected to obesity, but seem relevant for understanding both mental and physical health of Latino/as.

While many socio-demographic and cultural characteristics have been investigated for a link to obesity for Hispanics and African Americans, social support has received little attention. In general, social support has been found to improve mothers' health and overall approach to parenting¹⁴⁻¹⁸ and thus would seem relevant to studies of child obesity as well. Social support has been found to reduce maternal depression and stress, which can contribute to children's obesity.¹⁹⁻²³ There is also some evidence that suggests that social support can improve women's prenatal diet.¹⁸ Mothers' prenatal diets are important because maternal obesity in pregnancy contributes to an elevated risk of obesity and metabolic syndrome in their children.^{26,27} Finally, it is possible that social support can improve infant feeding practices. Social support has been found to increase breastfeeding^{26,27} and the evidence is clear that breastfeeding, among other benefits, reduces a child's risk of obesity.²⁸ While the link between social support and child obesity seems plausible, there have been no nationally representative studies directly linking the two.

It is reasonable to suggest that a lack of social support could contribute to child overweight/obesity. However, in order to understand if Hispanic and African American child obesity might, in part, be explained by low levels of social support, we must determine if support systems are indeed deficient for these groups. It has been suggested that Hispanics are more family-oriented and thus actually have more social support than Whites.²⁹ In addition, research on Latinos in California found that support from friends and family members improved physical and mental health and reduced the impact of stress on health.³⁰ Others have attributed the relatively good health of Hispanic babies at birth, despite their lack of resources and access to health care, to the strong family networks of Hispanics.³⁰ Research on other minority groups, particularly African American women, have also found strong kin networks emerging to compensate for cultural and financial strains.^{31,32} Given this body of literature, it might be assumed

that a lack of social support is not a viable explanation for the higher rates of obesity seen for Hispanics and African-Americans. However, others have not necessarily found social support advantages for minorities. Kim and McKenry found no differences in overall levels of support for Whites, African Americans, Hispanics, and Asians, but rather differences in the sources of support (e.g. religious versus nationality versus recreational groups).³³ Additionally, and perhaps more relevant to parenting, Sagrestano and colleagues found that among pregnant women, Whites have more social support than Hispanics or African Americans.³⁴ Thus the research on race/ethnic differences in social support with parenting is inconclusive and additional investigations in this area are needed.

Research on social support and race/ethnicity is further complicated by the effects of acculturation. Researchers have found that with acculturation social isolation increases and existing family ties begin to break down due to intergeneration conflicts over acculturation.^{30,35} Family conflict has been found to be associated with substance use and poorer mental health among Hispanics.^{36,37} It is also possible that close relationships might be counterproductive if more traditional views of elder family members, that reject breastfeeding and endorse heavier weights, are accepted instead of those offered by health practitioners. Caughy, O'Campo, and Mutaner, in their aptly titled article, "When being alone might be better," find that social networks can work against health if they perpetuate oppressive or counterproductive community norms.³⁸

The studies reviewed suggest a plausible link between parental social support and children's weight. The literature also suggests that the prevalence of social support and processes by which social support and obesity are linked might vary by race/ethnicity and acculturation. However, only one published study has empirically examined the relationship between parental social support and children's obesity. It was conducted by Gerald and colleagues using a convenience sample collected from the University of South Alabama Springhill Pediatric Clinic in Mobile Alabama.³⁹ The study comprised 77 women, most of whom were African American, low-income, and unmarried. The investigators found that being married and having social relationships that provide emotional support were associated with a decreased risk of obesity for children in the sample (ages 2–5 years).

The Gerald et al. study is a useful investigation suggesting that parental social support warrants further study in relation to children's obesity. However, its narrowly defined population limits generalizability. We have no information about the relationship between social support and child obesity among Hispanics and what role acculturation might play in the process. In addition, this study is typical of most studies of parenting and parental social support in that it focuses on mothers. Mothers and fathers both play a critical role in parenting, and research on Hispanics reveals that Hispanic fathers are deeply involved in parenting and have close emotional relationships with their children.⁴⁰ However, there is reason to believe that research on mothers cannot simply be extended to fathers. Women generally have more social support than men and a wider array of supports than men (men often rely more on their spouse than friends).⁴¹ Consistently, research on Hispanic fathers in two-parent families reveals that the father's parenting is strongly influenced by his relationship with his spouse.⁴⁰

Research has also revealed that fathers in non-traditional families experience a more significant loss of social support than mothers in non-traditional families.⁴² In sum, men appear to have narrower and more tenuous levels of social support than women. Some research suggests that men and women might also respond differently to social support. Kendler and Myers found that a lack of social support is predictive of depression for women but not men. They suggest that men might value social support less and thus exhibit a sort of immunity to the lack of it.⁴³ While intriguing, it is unclear whether this would also be true for parenting.

In sum, the research on social support, race/ethnicity, acculturation, parent's sex and health, is inconclusive. The extent to which social support is present for Hispanic and African American parents, how it varies by acculturation and parent's sex, and the influence it has on child obesity is not known. The present study seeks to explore these issues using the 2007 National Survey of Child Health. The paper will investigate three issues; 1) does child overweight/obesity and parental social support vary by race/ethnicity, acculturation, and parent's sex? 2) does social support of mothers and fathers relate to childhood overweight/obesity? and 3) do the effects of mother's and father's social support on child overweight/obesity vary by race/ethnicity and acculturation?

Methods

For the present study we use the 2007 National Survey of Children's Health. This survey was sponsored by The Maternal and Child Health Bureau and the U.S. Department of Health and Human Services. It is a random-digit dial telephone survey conducted in English and Spanish. Survey results are weighted (using STATA: StataCorp. 2009. Stata Statistical Software: Release 11. College Station, TX: StataCorp LP) to represent the population of non-institutionalized children ages 0–17 nationally, and in each state (N=91,642). One child in the household was randomly chosen as the focal child. The respondent was a parent or guardian who knew about this child. They completed a 25-minute interview that included questions about mental and physical health, access to and use of health care services, family functioning, parenting, and demographics. In this study the majority of the parents interviewed were mothers (76%), 18% were fathers, and 6% were other caregivers. Because we could not identify the nature of the relationship between the child and the other caregivers (e.g., grandmother, grandfather, aunt), we chose to limit our analysis to mothers and fathers. In addition, because it is well established that social support varies for men and women and the impact of social support on parenting by parent's sex has not previously been explored, we chose to conduct our analyses separately for mothers and fathers.

Measures. Our primary variable of interest is social support. While the NSCH is limited in terms of measures of social support, we did find one key question suitable for measuring social support, particularly support related to parenting. We use the question "Is there someone you can turn to for day-to-day emotional help with parenthood/raising children?" Response options were yes (coded 1) and no (coded 0). Social support is a broad term that typically is comprised of four component parts, emotional support, instrumental support, appraisal, and informational support.⁴⁴ Emotional support refers to support in the form of love, caring, sympathy, and understanding. Instrumental sup-

port refers to help, aid or assistance with tangible needs. Appraisal support involves help with decision-making and giving feedback. And informational support is related to the provision of advice or information. The use of the term *emotional* in the NSCH social support question suggests that we are likely capturing emotional support. This is an appropriate avenue of investigation as several studies have found relationships between emotional support and health, specifically child health.^{29,45} However, we also think that this measure might be capturing other dimensions of social support. Berkman et al. argue that it is difficult to disaggregate instrumental, emotional, appraisal, and informational support.⁴⁴ We agree. A parent may answer *yes* to this social support question because they have someone (perhaps a spouse or a grandparent) who on a day-to-day basis provides help with childcare, gives advice, or provides useful information to assist with parenting. For these reasons we refer to ours as a study of social support, rather than of emotional support specifically.

Our outcome measure of interest is childhood overweight/obesity. For children ages 10–17 the National Survey of Child Health provides a variable for BMI (body mass index). Body mass index is calculated (by NSCH) using children's height and weight by age and gender relative to growth charts provided by The Center for Disease Control. They then categorize children into one of four categories, underweight, normal weight, overweight, and obese. We dichotomized this measure into those who are overweight (85th through the 94th percentile) or obese (95th percentile or higher) and children who are not overweight or obese (overweight/obese are coded as 1 and all others are coded as 0). Because overweight and obesity often can be traced to early childhood we had hoped to examine BMI for children under 10. However, the NSCH does not provide BMI for younger children because, they report, that parents underestimate height and overestimate weight for children under ten. For these reasons we did not include younger children.

We examine social support and childhood overweight/obesity by race/ethnicity and acculturation. Acculturation is a complex process which has been measured using a number of different constructs. However, primary language is the only sub-construct present in all established acculturation scales and explains most of the variance in acculturation scales.⁴⁶ Thus, for this assessment we created five categories using questions regarding race, ethnicity, and primary language. These categories are Non-Hispanic Whites, Hispanics whose primary language is English, Hispanics whose primary language is Spanish, African Americans, and other racial/ethnic groups. In our analyses we also include a number of control variables. We examine sex of the child, age of the child, family structure, poverty, mother's age, parent's education, number of children in the household, health care coverage, and having a medical home.

Sample description. The sample for our study consists of parents of children ages 10–17 (N=37,454). Approximately 31% of the children in this sample profile as overweight or obese. The sample is comprised of Hispanics whose primary language is Spanish (7%), Hispanics' whose primary language is English (10%), Whites (61%), African Americans (14%), and parents representing other racial/ethnic groups (8%). Approximately 12% of parents in the sample report that they have no one to provide them with day-to-day emotional support with parenting/raising children.

Results

Race/ethnicity and acculturation differences in overweight/obesity and social support. Table 1 provides a comparison of our key subgroups defined by race/ethnicity and acculturation presented separately for mothers and fathers. Results reveal that English-speaking Hispanics, Spanish-speaking Hispanics, and African Americans have significantly and substantively higher rates of child overweight/obesity than Whites. The percentage of Hispanic and African American children who are overweight/obese (for mothers and fathers) ranges from 36% to 47%. For Whites, approximately 24–27% of the children profile as overweight/obese. Rates of overweight/obesity are higher for mothers of children from the “other” racial/ethnic category. However, the differences

Table 1.

VARIABLE MEANS BY RACE/ETHNICITY/ACCULTURATION FOR MOTHERS AND FATHERS

Variables	White	Hispanic English	Hispanic Spanish	African American	Other
Mothers (n=31,692)					
Sex of Child (female)	.49	.56*	.53	.50	.49
Age of child (mean)	13.62	13.56***	13.64	13.73	13.21**
# children in HH	2.17	2.33***	2.52***	2.21**	2.13***
Two parent HH	.69	.53***	.66	.31***	.61*
Mother's age (mean)	42.94	40.70***	40.98***	40.86***	42.89
Parent's edu. (1–3)	2.65	2.40***	1.62***	2.43***	2.60
HH Income (1–4)	3.05	2.65***	1.71***	2.27***	2.74***
No health ins. Child	.05	.09***	.30***	.09***	.08*
Medical Home	.65	.43***	.24***	.45***	.31***
Overweight/Obese	.27	.36***	.47***	.41***	.31***
Social Support (yes)	.93	.84***	.64***	.84***	.87***
Fathers (n=9,104)					
Sex of Child (female)	.48	.46	.41	.50	.49
Age of child (mean)	13.56	13.46	13.87	13.73	13.21**
# children in HH	2.07	2.28*	2.63***	2.21**	2.13***
Two parent HH	.74	.73	.76	.31***	.61*
Mother's age (mean)	43.37	41.26***	38.70***	40.86***	42.89
Parent's edu. (1–3)	2.68	2.64	1.70***	2.43***	2.60
HH Income (1–4)	3.30	3.04***	2.04***	2.27***	2.74***
No health ins. Child	.07	.10	.29***	.09***	.08*
Medical Home	.61	.52	.15***	.34***	.44***
Overweight/Obese	.24	.42***	.40***	.41***	.20
Social Support (yes)	.88	.79***	.71***	.83	.76***

T-tests denote significant differences relative to Whites, *p≤.05, **p≤.01, ***p≤.001

relative to Whites are not as large as for Hispanics and African Americans and no differences (relative to Whites) emerged in rates of child overweight/obesity for fathers in the "other" racial/ethnic group.

Hispanics and African Americans also have lower rates of social support than Whites, and this pattern is present for mothers and fathers (with the exception of African American fathers). Fathers do tend to have lower rates of social support than mothers. However, the differences are not dramatic and in some instances (Spanish-speaking Hispanics) fathers actually have higher reported rates of social support than mothers. Consistent with previous literature, Hispanics (both English and Spanish-speaking) and African Americans, have fewer socioeconomic resources compared to Whites.

Social support and child obesity. Table 2 provides logistic regressions predicting children's overweight/obesity for mothers and fathers. Models 1 and 3 include the race/ethnicity/acclulturation, social support, and demographic control variables. These models reveal that English and Spanish-speaking Hispanics and African Americans continue to have significantly higher rates of child overweight/obesity than Whites even after demographic controls are included. While higher rates of child overweight/obesity are present for Hispanic and African American mothers and fathers, the discrepancy is most pronounced for English-speaking Hispanic fathers, who have more than twice the incidence of overweight/obesity compared to White fathers. While it might seem logical to assume that the fathers who were respondents may be single fathers, Table 1 reveals that the majority (73%) reside in two-parent families. Models 1 and 3 indicate that social support is not a predictor of children's overweight/obesity for mothers and fathers in the pooled sample for all racial/ethnic/acclulturation groups. Several demographic controls reveal expected relationships with child overweight/obesity (e.g. education and income reduce child overweight/obesity).

Models 2 and 4 add interaction terms to the models to determine whether social support might operate differently for the various racial/ethnic/acclulturation groups. The results reveal one significant interaction, for English-speaking Hispanic fathers. Social support significantly reduces the odds of child overweight/obesity for this group. To confirm that social support is a significant predictor of child overweight/obesity for this group, we ran a logistic regression for English-speaking Hispanic fathers only (results not shown). The model revealed social support to be a significant predictor of child overweight/obesity. English-speaking Hispanic fathers with social support exhibit an 80% lower rate of child overweight/obesity compared to English-speaking Hispanic fathers without social support. Comparisons of Models 3 and 4 in Table 2 elaborate on the differences between English-speaking Hispanic fathers and White fathers. Model 3 (without social support interactions) reveals that English-speaking Hispanic fathers are more than twice as likely as White fathers to have a child that is overweight/obese (odds ratio, 2.21). However, Model 4, with the social support interaction terms, reveals that English-speaking Hispanic fathers without social support have child overweight/obesity rates that are almost 8 times higher than those of White fathers without social support (odds ratio, 7.67).

Table 2.**ODDS RATIOS (AND STANDARD ERRORS) FROM LOGISTIC REGRESSIONS PREDICTING OVERWEIGHT/OBESITY AMONG CHILDREN AGES 10-17**

Independent Variables	Overweight/Obese			
	Mothers		Fathers	
	Model 1 Odds Ratio (std. error)	Model 2 Odds Ratio (std. error)	Model 3 Odds Ratio (std. error)	Model 4 Odds Ratio (std. error)
White (reference)	—	—	—	—
Hispanics-Spanish	1.55* (.30)	1.68 (.49)	1.10 (.46)	1.32 (1.08)
Hispanics-English	1.40* (.22)	1.57* (.72)	2.21** (.68)	7.67*** (4.97)
African-American	1.43* (.12)	1.28 (.28)	1.58 (.53)	2.01 (1.06)
Other race/ethnicity	1.05 (.13)	1.47 (.47)	.66* (.12)	.40* (.18)
Mother's Age (years)	.98*** (.01)	.98*** (.01)	.98 (.01)	.98 (.01)
Number children in HH	.83*** (.03)	.83*** (.03)	.76*** (.06)	.75*** (.06)
Uninsured	.73* (.09)	.74* (.01)	.78 (.19)	.80 (.19)
Female child	.75*** (.05)	.74*** (.05)	.61*** (.09)	.61*** (.09)
Two parent HH	.92 (.08)	.92 (.08)	1.15 (.24)	1.15 (.24)
Age child	.91*** (.01)	.91*** (.01)	.83*** (.03)	.83*** (.03)
Parent's education	.84** (.05)	.84** (.05)	.74** (.09)	.74** (.08)
Medical home	.93 (.07)	.92 (.07)	1.01 (.15)	.99 (.14)
Times poverty level	.80*** (.03)	.79*** (.03)	.78* (.01)	.78* (.01)
Social Support	.91 (.11)	.95 (.13)	.76 (.18)	.97 (.19)
Hisp-Eng*SS	—	.90 (.33)	—	.22* (.10)
Hisp-Spanish*SS	—	.87 (.42)	—	.81 (.77)
African-American*SS	—	1.14 (.27)	—	.76 (.48)
Other Race*SS	—	.67 (.24)	—	1.85 (.89)

*p≤.05, **p≤.01, ***p≤.001

Discussion

Childhood obesity has become an American epidemic, disproportionately affecting minority children.⁴⁷ Consistent with previous literature, the present study found that Hispanics (English and Spanish-speaking) and African Americans have higher rates of child overweight/obesity than Whites.^{2,9} Our study further reveals that English-speaking Hispanic fathers exhibited the largest discrepancy with Whites, with rates of child overweight/obesity that were more than twice those of White fathers. These fathers represented a variety of family structures, however the majority (73%), reported that they reside in two parent households.

were less likely to have someone to provide them with emotional help with the day to day parenting of their children compared to Whites. These findings contribute to a complex and sometimes conflicting literature on minority social support. While some studies have suggested that Hispanics and African Americans might have more social support than Whites due to strong kin networks, our study does not support this claim.^{29,33,48} Rather, our findings are more consistent with Sagrestano and colleagues who found Hispanic and African American pregnant women to have lower rates of social support than Whites.³⁵ The differences might be explained by the fact that our study, like the Sagrestano study, addresses parenting specifically.

We hypothesized that social support would contribute to children's overweight/obesity and that the effects might be more pronounced for minority populations (particularly more acculturated Hispanics). We found partial support for our assertions. Results revealed that social support was not a significant predictor of children's overweight/obesity for the majority of our subgroups examined. However, it did prove to be a strong predictor for one group, English-speaking Hispanic fathers. English-speaking Hispanic fathers with social support exhibited a rate of child overweight/obesity 80% lower than that of English-speaking Hispanic fathers without social support. We also found sizable differences in the rates of child overweight/obesity for English-speaking Hispanic and White fathers, which became magnified when social support was not present. Thus, while English-speaking Hispanic fathers exhibited some of the highest rates of child overweight/obesity in our study, they were the group for whom social support was significantly and substantively associated with a reduction in the risk of child overweight/obesity.

Our study is the first to explore the relationship between parental social support and children's overweight/obesity using a nationally representative sample and to examine race/ethnicity, acculturation, and parent's sex as potential moderators. In the absence of other similar investigations of the subject, we are not yet comfortable concluding that social support is relevant for English speaking Hispanic fathers but not other subgroups. Previous research has found social support to be beneficial to minority health and parenting practices in particular.^{16,30,49,50} It is possible that social support is related to child overweight/obesity for other subgroups, but it may emerge for different forms of social support or at younger ages (we only examine children age 10 and over). Rather we feel our investigation has produced two findings that are consistent with (but an expansion of) existing literature. First, our study confirms the limitations of models of child obesity that assume a universal process. Bronfenbrenner has offered quite acerbic assessments of research that seeks to identify an imagined pure process and ignores relevant contextual variables.⁵¹ We agree and suggest that to understand the high rates of childhood obesity among minorities we must explore both the compositional differences in risk factors as well as the possibility that risk factors might operate differently for these groups relative to the majority population. Second, we identify English-speaking Hispanic fathers as a subgroup that might be particularly vulnerable to childhood overweight/obesity and uniquely responsive to the moderating effect of social support. No previous studies exist on this specific subgroup. In fact, most studies of parenting focus on mothers and most studies of child overweight/obesity and Hispanics do not distinguish English from Spanish-speakers in the empirical analyses.

Because there have been so few studies of social support and child overweight/obesity

our findings cannot be easily inserted into a body of existing literature. However, we feel our findings resonate with existing scholarly arguments regarding acculturative stress, the social vulnerabilities of fathers, and family systems theory. Our findings are consistent with general assertions that with acculturation, Hispanics lose important social and community supports and become vulnerable to the stress of declining social networks and unreliable ethnic identities. Harley and Eskenazi suggest that many Hispanics might be in a “marginalized or transitional phase of acculturation”^{18(p.111)} where they have lost the protections of the social and cultural influences of their native country but not yet established themselves socially or economically in the U.S.¹⁸ The English-speaking Hispanic parents without social support in our study may represent the marginalized Hispanics of whom Harley and Eskenazi speak.

Further, there is reason to believe that social and emotional marginalization associated with acculturation might be most likely to affect child overweight/obesity for Hispanic fathers (rather than mothers). Studies of Hispanic fathers have shown them to be deeply involved in the parenting of their children.⁴² Research (not on Hispanics specifically) suggests that fathers are less likely than mothers to monitor their children’s eating patterns and are less likely to desire thinness than mothers.⁵² Finally, an ethnographic study of child obesity among Latinos in a low-income neighborhood in Brooklyn revealed family processes strikingly consistent with our assertion that social marginalization among Hispanic fathers might contribute to child overweight/obesity.¹⁰ In the Kaufman and Karpati study, the researchers describe a mother, Yolanda, who wanted to take the advice of her pediatrician to give her daughter, Maria, low-fat rather than regular milk to achieve a more age appropriate weight. However, Yolanda reported that the father, Ramon, insisted on adding Nestle Quick (sweet chocolate flavoring) to the milk. Yolanda stated that “Maria get[s] anything she wants from him [Ramon].”^{10(p.2181)} The researchers elaborate that for this father, “Sharing food is sharing intimacy, and giving his daughter a treat expresses his love for her.”^{10(p.2181)} The researchers provide several examples of how a father’s status influenced his feeding practices. Fathers who did not reside with their children or who were not able to satisfy their children’s material desires, often gratified their children with food (usually unhealthy food) instead. Giving children sweet treats is an affordable and immediate way to connect emotionally to children and fathers who felt limited in what they could offer, were particularly inclined to use this approach. While mothers often disapproved, they did not feel they could or should challenge fathers regarding this practice. The researchers argue that while obesity related interventions often focus on the mothers (or grandmothers), that many others play an important role in feeding practices, and fathers are one of the most influential members of the family system.¹⁰

We recognize that our study suffers from a number of limitations. First, our measures of social support and acculturation are narrowly defined and we only examine children between 10 and 17. In addition, we have not shed much light on the processes by which a lack of social support might contribute to childhood obesity. We would like to explore how social support influences feeding practices, physical activity, and stress, and how these relate to children’s weight at various ages. Finally, from this cross-sectional study, we cannot be certain of the causal order of the relationships found. Clearly social support may influence health behaviors and outcomes. However, as child

and family health deteriorates, social relationships might become strained. Despite these limitations, we feel that these findings offer a useful exploration of the subject. We hope future research will be conducted which explores whether parental social support can influence children's obesity, in what way, and for which subgroups. In particular research is needed which reflects the importance of fathers. We need to better understand how fathers influence children's weight, how decisions on feeding practices are negotiated within the family, how race/ethnicity and acculturation interact with parent's sex to influence parenting practices, and the social support needs of parents. This type of investigation is needed in order to develop obesity prevention programs that are culturally sensitive and congruent with the social contexts of parents (both mothers and fathers) and their children.

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