A Qualitative Study for Understanding Family and Peer Influences on Obesity-Related Health Behaviors in Low-Income African-American Adolescents

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Background: Given the cultural and developmental relevance of family members and peers in the lives of African-American adolescents, the present study used a bioecological framework to qualitatively explore the parenting context as well as specific family factors (support, rules, monitoring) and peer factors (support) related to weight status, physical activity (PA), and healthy eating in low-income African-American boys versus girls.

Methods: Qualitative data were obtained from African-American adolescents through focus groups. Adolescents ($n = 45$, 100% African American, 51% girls, 12.6 ± 1.2 years, 51% overweight/obese) were from two underserved communities in South Carolina (median income $\approx \$17,000$ – $\$22,000$, high crime levels). Sessions were audiotaped, transcribed, and coded by independent pairs of raters ($r = 0.75$). QSR NVivo 8 was used to analyze data, and themes were categorized separately for boys and girls.

Results: Adolescents reported themes of family warmth and control practices consistent with an authoritative style of parenting. Although adolescents wanted increased autonomy, they viewed parental monitoring as a favorable part of their relationship. Boys reported receiving more constructive feedback from parents about weight status and greater overall support for PA and diet than did girls. Girls reported more honest feedback from peers about weight status than did boys. Overall, adolescents acknowledged the unique opportunities of parents and peers in improving their health behaviors.

Conclusions: Findings suggest parents and peers interact in different ways with African-American boys and girls regarding their weight status and health behaviors. Future obesity prevention efforts in minority youth may need to target parenting skills that provide greater support to African-American girls. In addition, given peers influence PA and diet differently in boys and girls, interventions should strategically include parenting strategies that involve monitoring peer–adolescent interactions.

Introduction

Obesity rates among ethnic minority youth in the United States are alarming, with 40% of African-American adolescents classified as either overweight or obese.¹ Few obesity interventions conducted with African-American youth have yielded significant results,^{2,3} highlighting a need to more successfully integrate key cultural and developmental factors associated with promoting positive health behaviors in African-American adolescents. Given the relevance of family members and peers in the lives of African-American adolescents,^{4–11} the present study used a qualitative approach to gain a richer understanding of family and peer facilitators and barriers related to weight status and obesity-related health behaviors [*i.e.*, physical activity (PA), healthy eating] in low-income African-American boys and girls.

A recent review of intervention studies in minority youth suggested that the most successful obesity prevention programs have used a bioecological approach that combines several influential social environmental contexts.¹² A bioecological approach to health assumes behaviors such as PA and diet are shaped by reciprocal relationships between individuals and their surrounding environmental systems.^{13–15} Adolescents in particular experience ongoing biological changes at the individual level (*e.g.*, puberty) and social changes at the micro- and mesosystemic levels (*e.g.*, balancing interactions between parents and peers).^{16,17} For underserved adolescents, these changes often occur within the culture (macrosystem) of impoverished high-crime areas, which often lack resources that promote positive health behaviors.^{18–22} Overall, there is a need to better understand how social interactions of youth living within these broader underserved cultural contexts impact their health behaviors from their unique perspective. Thus, a

bioecological approach was used to more fully understand ways in which weight status, PA, and healthy eating for youth within underserved communities may be shaped specifically by their interactions with parents and peers (see Fig. 1 for an illustration of the conceptual framework).

Parental influence on youth outcomes is often explained by parenting style, or the context in which parenting practices are implemented.^{23–25} Four parenting styles have been identified based on dimensions of parental warmth and control: authoritative (high warmth and control), authoritarian (low warmth, high control), permissive (high warmth, low control), and uninvolved (low warmth and control).²⁴ Positive youth health outcomes have been associated with an authoritative parenting style.^{26–28} For example, tangible support from parents (*i.e.*, providing resources and problem-solving to facilitate healthy behaviors) has been positively associated with adolescents' PA in a large sample of urban youth.²⁹ Family emotional support (*i.e.*, encouragement) has also been shown to improve dietary compliance among African-American youth.³⁰ In addition, parental control exerted through monitoring and limit-setting has been associated with decreases in household television viewing in African-American girls.³¹ Still, inconsistencies in the literature suggest it is not yet clear as to which parenting style (authoritative versus authoritarian) yields

the most positive overall outcomes for African-American youth specifically.^{32–35} The present study expands on previous research by capturing various aspects of parent–adolescent interactions indicative of warmth (social support) and control (rules, monitoring) from the perspective of underserved African-American youth to better understand how parenting style influences the health behaviors of boys versus girls.

The present study also explores how other unique aspects of being raised in underserved African-American communities may be associated with youth health behaviors. For example, literature on African-American parenting highlights the use of shared parenting strategies.³⁶ A set of neighborhood practices, known as collective socialization processes (*e.g.*, monitoring youth through others), have been shown to protect children growing up in dangerous communities by promoting positive development.³⁷ In addition, it has been suggested African-American parents socialize youth differently based on the child's sex, with more demands being placed on girls than boys (*e.g.*, greater monitoring, higher educational expectations).^{38,39} Evidence supports the effect of differential socialization of boys versus girls on youth health behaviors.^{30,40–42} In one qualitative study, African-American girls reported receiving more emotional and negative

Figure 1. Conceptual framework for exploring parent and peer factors related to adolescent weight status, physical activity, and healthy eating in underserved youth.

support (e.g., being required to take care of and play outside with siblings) from parents for PA than boys, who reported receiving more tangible support.⁴² Various other health outcome studies conducted with African-American adolescents have also shown girls and boys both seek out and are more receptive to emotional support and tangible support, respectively.^{30,40,43} Thus, the present study examines underserved adolescents' perceptions of how family factors (social support, rules, monitoring) may relate to health promotion behaviors differently in boys and girls.

Because positive outcomes in African-American youth across a variety of domains (e.g., academic, behavioral, health-related, social) have been shown to be influenced not only by extended family networks,^{5,6,11} but by peer relationships^{7,10} and a combination of both,^{8,9} the influence of both parent and peer factors on adolescent health behaviors is examined in this study. Just as with parents, peer social support has been found to be a strong predictor of PA in inner-city African-American adolescents⁷ and a predictor of dietary fat and fiber intake in ethnically diverse sixth graders.¹⁰ Furthermore, sex differences in youth PA levels,^{44,45} fruit and vegetable intake,^{46,47} and attitudes toward health behaviors (e.g., boys find PA competition compelling while girls find it aversive⁴⁸) suggest peers may be more supportive of boys in relation to sports and more supportive of girls in relation to dietary change. Previous focus group studies in African-American adolescents^{42,49–52} have shown that African-American youth would like to engage in more PA with peers,⁵² want parents and peers to model healthy behaviors, and want better-looking and better-tasting healthy food options.⁵⁰ However, little qualitative research to date has explored ways in which African-American adolescent boys versus girls would like for parents versus peers to facilitate improvements in their PA and eating behaviors.

In summary, the present study combines a bioecological framework with qualitative methods to explore culturally and developmentally relevant family factors (support, rules, monitoring) and peer factors (support) that may impact adolescent weight status and health behaviors in low-income African-American boys and girls. Previous recommendations for qualitative research suggest striking a balance between deductive (*i.e.*, theory driven) and inductive (*i.e.*, data driven) methods.⁵³ Thus, although the bioecological framework served as the overarching conceptual model for this study, questions and hypotheses were left open enough to capture aspects of the parent-peer-adolescent systems not previously considered. On the basis of past literature on African-American parenting, it was hypothesized that evidence of both authoritative and authoritarian parenting styles may emerge. In addition, on the basis of literature on the differential socialization of boys and girls, it was hypothesized that boys and girls would be supported by parents and peers in unique ways. Specifically, it was hypothesized that boys would report seeking and receiving more tangible support for engaging in health behaviors from family and peers

whereas girls would report seeking and receiving emotional support from family and peers. Furthermore, it was hypothesized that regarding peer interactions, boys would emphasize physical activity-related themes whereas girls would emphasize diet-related themes.

Method

Participants and Community Characteristics

Participants in the present study (see Table 1) were recruited from communities participating in the Positive Action for Today's Health (PATH) trial, which examined the effect of an environmental intervention on improving access and safety for PA in high-crime communities⁵⁴ (see ref. 54 for details). PATH communities were matched on demographic (e.g., race, income) and crime variables (e.g., murders, rapes, aggravated assaults); the communities were 93%–99% African American, had a median household income of between ≈\$17,000 and \$22,000, a poverty rate of ≈36%, and high crime levels. Because the purpose of the PATH trial was to examine the reach of a community-based intervention on the neighborhood at large, adult residents living within specified census tracts were recruited to have biannual health assessments but not as intervention participants. With the assistance of local PATH community leaders, youth in the present study were recruited from two of the three PATH communities by distributing flyers, mailing letters to middle school students, and making announcements at summer camps. Adolescents were included in the study if they were African American and between the ages of 11–15 years. They were excluded from the study if they had a

Table 1. Participant Characteristics of African-American Adolescents

	Boys (n = 22)	Girls (n = 23)	Total (n = 45)
Age (years)	12.83 (1.23)	12.45 (1.18)	12.64 (1.21)
BMI (kg/m ²)	22.91 (4.64)	24.24 (4.77)	23.56 (4.70)
BMI percentile	76.52 (21.93)	81.83 (17.51)	79.11 (19.85)
Normal weight (%)	50%	48%	49%
Overweight (%)	23%	22%	22%
Obese (%)	27%	30%	29%
Number of people in household	3.78 (1.86)	3.68 (1.49)	3.73 (1.67)
Household income (%)			
<\$10,000	17.4%	18.2%	17.8%
\$10,000–\$24,999	43.5%	36.4%	40%
\$25,000–\$39,999	4.3%	22.7%	13.3%
\$40,000–\$54,999	13.0%	13.6%	13.3%
>\$54,999	17.4%	4.5%	11.0%
Other	4.3%	4.5%	4.4%

Note: The "other" household income category represents participants who refused to indicate a response.

sibling already enrolled or were members of the same household. Adolescents were offered a \$10 incentive to participate in the study.

Procedure

This study was approved by the University of South Carolina Institutional Review Board. Parental informed consent and adolescent assent were obtained from study participants prior to data collection. The protocol and discussion guide questions (see Table 2) for the focus groups were developed based on the bioecological framework (*i.e.*, deductive qualitative approach) and were simultaneously left open enough to capture novel aspects of parent–peer–adolescent interactions (*i.e.*, inductive qualitative approach). Overall, questions were aimed at understanding family factors (microsystemic level), peer factors (microsystemic level), and their potential intersection (mesosystemic level) related to adolescent weight status and health behaviors in boys versus girls (individual

level). To better understand the parenting context and to make adolescents feel comfortable, broad questions (*e.g.*, “What do you like about your day-to-day interactions with your family?” “How would you like your family to be different?”) were asked at the beginning of each focus group session. Subsequently, questions regarding adolescent interactions with parents and peers around weight status, PA, and healthy eating were asked.

Four all-female and five all-male sessions were conducted in private rooms at the PATH community centers and confidentiality of responses was emphasized. Due to difficulties faced while recruiting research participants from low-income, high crime communities (*e.g.*, caregiver transportation issues, disconnected phone numbers, generally low show rates), sessions ranged between 3 and 8 participants per group, with a mean of 5 participants per group. All sessions lasted approximately 1 to 1.5 hours, including the option of a short break at the midpoint and were audiotaped and transcribed by an independent transcription agency.

Table 2. Relevant Focus Group Questions and Probes

Specific bioecological constructs of interest	Initial questions	Follow-up probes
Bioecological Category: Parenting Context		
Parental warmth Parent–adolescent Interactions, Support	What do you like about your day-to-day interactions with your family?	What kinds of things do you do together? What kind of things do you talk about?
Parental control	How would you like your family to be different?	
Rules	What types of rules do your caregivers have in your house for you?	How do you feel about those rules?
Monitoring/ Socialization	How do your caregivers keep track of what you do?	How do you feel about that?
Bioecological Category: Family Factors Associated with Adolescent Weight Status, Physical Activity, and Healthy Eating		
Parent–adolescent Interactions	How do your caregivers make you feel about how you look?	
Support (tangible and emotional), rules, monitoring	What kinds of things do your caregivers do to help you be physically active? What would you like your family to do different to help you be physically active? What kinds of things do your caregivers do that help you eat healthy? What would you like your family to do different to help you eat healthy?	Are there things they say that make you want to be physically active? What about changing something in your home environment? Equipment? Are there things they say that make you want to eat healthy? Are there things about your home environment they could change to help you eat healthy?
Bioecological Category: Peer Factors Associated with Adolescent Weight Status, Physical Activity, and Healthy Eating		
Peer–adolescent Interactions	How do your friends make you feel about how you look?	
Support (tangible and emotional)	What kinds of things do your friends do that makes you want to be physically active? What would you like your friends to do different to help you be physically active? Who can help you to be more physically active: your friends, your parents, or both? What kinds of things do your friends do that makes you want to eat healthy? What would you like your friends to do different to help you eat healthy?	Are there things they say that make you want to be physically active? How can your friends encourage you to be physically active? Why? Are there things they say that make you want to eat healthy? How can your friends encourage you to eat healthy?

Measures

Anthropometric measures. Height was measured using a Shorr Height Measuring Board, and weight was measured with a SECA 880 digital scale. Two measures of height and weight were taken by trained study staff, and the average score was used to calculate BMI for-age percentiles using the Statistical Analysis System (SAS) program based on CDC 2000 reference curves.⁵⁵

Qualitative Analysis

The bioecological framework was used to code focus group transcripts into family and peer facilitators and barriers for health promotion (PA, diet) in boys and girls separately. Codes were used to separate participant responses into manageable “themes,” and themes were identified as concepts discussed by at least three participants across a minimum of two focus groups (see Table 3). A team of six coders was split into three coding pairs, and interrater reliability between the coding pairs ($r = 0.75$) indicated acceptable levels of agreement. The qualitative software QSR NVivo 8 was used to perform a content analysis of the themes and for extracting coded participant responses by the matrix intersection of attribute condition (participant sex) and relevant tree nodes.

Results

Focus Group Themes

Table 3 provides a summary of themes, including information on frequency (number of participants who endorsed each theme) and the number of sources (focus group sessions) in which each theme emerged. Qualitative results are summarized into the following areas: Themes related to the parenting context by sex and specific family and peer factors related to adolescent weight status, PA, and healthy eating by sex.

Themes related to parenting context by sex.

Warmth. Both boys and girls described parenting interactions that included positive communication and engaging in quality time together. For example, comments made by girls included: “I like to sit and listen to them talk about the old times ... they talk about my granddaddy that I never met and my grandma and what they used to do when they were younger (girl),” and “We go like different places and we go shopping, we go out eating, and like we’ll talk about life sometimes or like, it’s not like daily it’s like when something happens we’ll talk or either like my mom will feel something cause she’s a pastor’s daughter. And so if she feels something she’ll talk to us about it and we go visit other people, we go to different churches (girl).” One boy noted, “I like to play football with my dad and he takes me

Table 3. Summary of Themes by Sex

Category	Themes	Boys (frequency/source)	Girls (frequency/source)
Parenting Context			
Warmth—family interactions	Positive communication	11/5	14/4
	Engaging in activities together	22/5	14/3
	Comfort level around being silly/having fun	8/3	10/3
	Satisfaction with family	5/3	4/2
	Want more time/interactions with their families	11/4	4/3
Control—rules	Specific rules	19/5	14/3
	Unspoken/value-centered rules	7/3	8/4
	Satisfaction with rules	8/4	6/3
	Dissatisfaction with rules	11/4	5/2
	Desire for reduced restrictions (increased autonomy)	15/5	9/4
Control—parental monitoring	Through technology	17/5	14/3
	Through talking directly to the adolescent	8/3	10/3
	Through others	4/4	4/2
	Monitoring shows parents care and want to keep adolescents safe	7/3	4/3
Family and Peer Factors Related to Adolescent Weight Status			
Parent feedback about weight status	Positive feedback about appearance	8/5	11/3
	Constructive/realistic feedback about appearance	4/3	Did not meet criteria
Peer feedback about weight status	Positive feedback about appearance	5/3	5/4
	Constructive/realistic feedback about appearance	Did not meet criteria	4/3

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to work with him. And sometimes he even makes, he'll let me, like because he, him and his cousin builds houses, so they will let me handle stuff like the nail gun (boy)." Boys and girls also described a certain comfort level around being with their families, including the ability to laugh and tell jokes: "In the morning like there's always somebody in the house that do something stupid so we'll just start laughing and like just like laughing with each other (girl)." Together, boys and girls made ~80 comments which indicated family warmth through positive communication and interactions.

Control. Themes related to control (*i.e.*, rules) indicated that parents used a combination of specific rules (*e.g.*, taking out the trash) and unspoken/value-centered rules (*e.g.*, respecting adults) for both boys and girls. For example, "Like for me like every basic family have like the basic rules, the guidelines like the Ten Commandments, that's everybody like every family has that (girl)," and "The types of rules at my house, you know, no cussing, no drugs or like alcoholic beverages. You're supposed to do your homework before you do anything else when you come in, and make sure you clean up your mess (boy)." While adolescents expressed a variety of opinions about

the rules, they generally felt parents could reduce restrictions and increase autonomy by "loosen[ing] up a little bit" and refraining from "being a little overprotective." Boys more frequently discussed a desire for reduced restrictions and increased autonomy than did girls.

Another indicator of parental control, monitoring, was also examined. According to both boys and girls, parents used a variety of monitoring strategies (*i.e.*, talking to adolescents directly, tracking them using technology, and checking in on their whereabouts through others). One girl said the following about how her mother uses other adults in the neighborhood to keep track of her: "It's a bunch of people that know me and everywhere I go it's like I, it's like different like one person or two people that know, know me and my mama and they'll be like so and so will call mom and be like yeah well [she's] here with me so she'll be like oh okay." Similarly, one boy shared, "[My parents will] send people over to your house and I'll be thinking they be trying to break in and what—I got that big stick. One night, I was really scared because somebody came into the house. I didn't know who that was, and then that's when my mom came home and she said, 'did somebody come in and check on you?'" Boys

Table 3. Summary of Themes by Sex *continued from page 470*

Family and Peer Factors Related to Physical Activity			
What families currently do—physical activity	Tangible support	4/2	Did not meet criteria
	Emotional support	5/2	Did not meet criteria
	Verbal commands	5/2	Did not meet criteria
What families could do differently—physical activity	Tangible support	8/3	7/3
	Emotional support	6/3	Did not meet criteria
What peers currently do—physical activity	Tangible support	6/3	6/3
	Competition	5/2	Did not meet criteria
What peers could do differently—physical activity	Tangible support	6/4	8/3
	Emotional support	6/3	Did not meet criteria
	Decrease sedentary behavior	Did not meet criteria	5/2
	Satisfaction with what peers are doing	5/4	Did not meet criteria
Comparative physical activity statements	Both parents and peers	5/2	6/2
	Peers only	3/2	Did not meet criteria
Family and Peer Factors Related to Healthy Eating			
What families currently do—eating	Tangible support (increase healthy food)	5/2	5/3
	Informational support	5/3	Did not meet criteria
What families could do differently—eating	Role modeling/ engaging in healthy eating together	3/2	3/3
	Tangible support (increase healthy food)	12/4	9/4
	Tangible support (decrease unhealthy food)	9/3	5/3
	Informational support	Did not meet criteria	3/4
What peers currently do—eating	Nothing or dare one another to eat healthy food	4/2	5/2
What peers could do differently—eating	Role modeling/ engaging in healthy eating together	8/4	10/4
	Tangible support (increase healthy food)	3/3	Did not meet criteria
	Tangible support (decrease unhealthy food)	4/3	4/2
Note: Themes were defined as concepts discussed by at least three participants ("frequency") across a minimum of two focus group sessions ("source").			

and girls also made comments indicating they value parental monitoring as a way for parents to show that they care and ensure their safety. For example, one girl noted, "Because that's how that she cares for me and don't like me to go like do anything and think she don't care." Similarly, one boy said, "I think it's good that my mom keeps checking me because if I was to get, like if I tell her where I'm going, she, she would know where I was at. Like if we would have to go somewhere and it was an emergency she would come there and pick me up." Another boy noted, "I think it's good because she wants to keep up with me where I'm going and who I'm with because some people might kidnap me or something."

Family and peer factors related to adolescent weight status by sex. Overall, boys reported receiving more helpful information from parents about their weight status than did girls. Boys (but not girls) made comments about ways their parents provided constructive suggestions to help them monitor their weight and engage in healthy behaviors: "Like good because they're telling me what I need to do to, in order for me to lose weight or watch my weight or focus on my weight or something like, not to gain more weight." Contrastingly, girls mainly reported positive feedback from their parents about their appearance: "... I'll be like well momma I don't think I'm gonna look right in this because of my weight size and she be like no don't doubt yourself because, you know, if God didn't want you to be that way then you wouldn't have been that way" and "Like there's certain outfits they say that look good on you, or either they say that fits you and then they be like, you ain't that big, and I know they lying to me. They say I don't look big." With regard to feedback from peers, both boys and girls reported receiving positive comments about weight status: "They'll encourage me. Like they'll tell me I look nice (boy)," and "How my friends go about my body is like when ... they have it in my size and I want to go try it on, they be like 'why you just won't try it on, ain't nothing wrong with you.' I mean, they're just trying to pick me up (girl)." Girls (but not boys) additionally reported receiving more honest (and often harsh) information from peers than they receive from parents: "They say you need to lose some weight on your legs 'cause you getting too big for these pants and you look like your stomach big, look like you pregnant."

Family and peer factors related to physical activity by sex. Adolescents made comparative statements between family and peers with regard to who could help them do more PA. Boys and girls felt that because they are not around family or friends all the time, both family and peers have unique opportunities to help them engage in PA. For example, one girl said, "Because one my momma has ... my track schedule, my basketball, my volleyball schedule sitting right there on the refrigerator, and every morning when I get up she reminds me look at it. And my friends they text me every morning we have practice or when we gonna have a track meet." Boys (but not girls)

expressed satisfaction with what peers are already doing to help them engage in PA, while girls discussed the fact that if their peers decreased sedentary behaviors (e.g., calling and texting them), it would help them to engage in more PA: "Stop telling me to turn on the TV when I don't have it on and I'm trying to do something." Some boys also felt that their friends could help facilitate PA better than family: "To be honest they say family comes first, but I have to say my friends ... we burn energy and strive for fitness more than me and my family do, so I would have to say my friends."

Overall, boys reported both receiving and seeking tangible and emotional support from families and peers for PA. For example, "My mom, she helps me by signing me up for different sports and most sports make you run," and "I would like for my mom or my dad to become the coach on one of my sports teams, like football, basketball, baseball or any sport I play (i.e., tangible)." One boy said the following about his peers: "Like not let me give up, like not to let me see, like in football practice don't let me stop running or quit the team and just sit around and be lazy. Just to help me stay in sports and to play harder (i.e., emotional)." Boys also reported that parents are giving them verbal commands to "get out the house and go do something" to encourage PA behavior and that their friends help them engage in PA by challenging them to engage in competition: "If they say you're sorry in basketball ... that's when I start beating them and stuff and they get mad." For girls, the themes of receiving tangible and emotional support for PA from parents did not emerge; however, girls did report receiving tangible support from peers for PA and seeking tangible support for PA from both parents and peers. One girl said the following about her family: "They could like ask what I want to do, like cause most of the time they usually say they want to go to the movies and stuff like that, and I'm like I really don't want to go. I want to do something that's active. It's like I like to skate, and they don't like doing that."

Family and peer factors related to healthy eating by sex. Both boys and girls reported that families currently facilitate healthy eating by providing tangible support for increasing the availability of healthy foods. For example, a girl said, "I just noticed that, like, she'll like get me salads and stuff and fruits cause I like kiwis, the little kiwis be good." Boys additionally reported receiving informational messages about the importance of eating healthy: "Well, they tell me, like since everybody in my family basically has got diabetes and stuff, they're saying don't get too, don't, well kind of tone down on the sugar and stuff." Peers, on the other hand, are either doing nothing or daring adolescents to eat healthy foods.

Both boys and girls sought additional tangible support from family and peers through increasing the availability of healthy foods and decreasing the availability of unhealthy foods. For example, "We shouldn't eat out as much. Cause we eat out a lot during the week, like at McDonalds or whatever (girl, about family)," and, "If

we want to go out somewhere...we pick a healthy food restaurant. And we'll try and get something that's real healthy on the menu" (boy, about friends)." Adolescents also noted that parents should serve as examples: "They need to stop eating junk food...because if you telling us to stop eating junk food and you eat it, then you need to stop eating it," said a boy. Finally, girls wanted more information from their families about health and eating: "Maybe somebody in my family could be like...diabetic like, or they could be like obese or something, like, they could come up to me and be like...don't be like me...because like my mother has like big hips and stuff, they was like you've got to watch what you eat."

Discussion

This study used a bioecological framework and qualitative methods to explore family and peer factors related to weight status and weight-related health behaviors in low-income African-American boys and girls. The findings highlight the importance of both parent and peer systems in shaping adolescent weight status and weight-related health behaviors given their unique yet equally important roles in the lives of African-American adolescents. Adolescents reported themes consistent with an authoritative style of parenting, identified parental monitoring as a favorable part of their relationship, and acknowledged opportunities of parents and peers to provide support for healthy behaviors. Boys reported more constructive feedback from parents about weight status while girls reported receiving more honest feedback about their weight status from peers. Hypotheses were supported in that boys (but not girls) reported receiving and seeking tangible support from both families and peers for engaging in PA and eating healthy. In addition, boys emphasized peer interactions around PA more so than did girls. Contrary to what was expected, girls did not report receiving and seeking emotional support for PA or healthy eating and did not emphasize peer interactions around diet. Overall, these findings highlight the need to increase and refine aspects of parent-adolescent and peer-adolescent communication around weight and related health behaviors.

Themes related to parenting context that emerged in the present study have several implications for developing future interventions. Specifically, findings related to both household rules (*i.e.*, specific, unspoken/value-centered) and family interactions (*i.e.*, communication, engaging in activities together, and comfort level around being silly) suggest a combination of warmth and discipline that is indicative of an authoritative style of parenting and consistent with previous studies.⁵⁶ Studies show when parents set limits around sedentary behaviors, adolescents are less likely to engage in high amounts of these behaviors and more likely to avoid weight gain.^{57,58} Additionally, the present study suggests underserved youth view parental monitoring as favorable. Moderate levels of parental monitoring have been associated with less extreme diet-

ing in overweight girls and eating breakfast in overweight boys⁵⁹; however, these approaches have not typically been integrated into obesity prevention programs in minority youth. It is important to note that although themes related to rules and monitoring emerged when discussing the general parenting context, they did not emerge when specifically discussing weight status or adolescent health behaviors. However, because caregivers already seem to be monitoring adolescent whereabouts using a variety of strategies, future obesity interventions conducted with minority youth should target positive parenting skills, such as monitoring in an autonomy-supportive fashion.

The broader context of low-income, underserved communities also provides insights into themes related to parental monitoring through others and to adolescents acknowledging its role in ensuring their safety. Several specific comments made by adolescents (*e.g.*, "I got that big stick," "some people might kidnap me or something") highlight the unique population with which this study was conducted and are especially indicative of the importance of shared parenting in high-crime communities. Parental monitoring through other adults in the community is an example of previously noted collective socialization practices, which extend parental monitoring beyond individual caregivers and into the community.³⁷ The physical structure of the present communities (*i.e.*, urban, close proximity of homes) lends itself to parenting through others. In fact, neighborhood characteristics have been shown to impact the relationship between parenting and adolescent behavior.^{37,60,61} For instance, one study found that African-American youth living in highly disadvantaged neighborhoods were less likely to be affiliated with deviant peers if their caregivers used high levels of involved parenting.⁶⁰ These authors noted children living in disadvantaged communities benefited most from parental monitoring and warm interactions, both of which emerged as themes in the present study. Future obesity studies tailored to African-American communities may also consider creative ways to extend the phenomenon of parenting through others into the field of health behaviors.

Findings related to social support in the present study replicate previous research on the importance of parent and peer social support for youth PA and healthy eating.^{30,42,62-65} As in the present study, Wright et al.⁴² found that boys more frequently reported receiving tangible support for PA than did girls and that both boys and girls desired greater tangible support. However, the present study also expands on Wright's work in several important ways: First, this study notes that boys are receiving a greater variety of social support mechanisms from families (including emotional support and verbal commands to go outside) in addition to tangible support. Caregivers also seem to be providing boys with more direct feedback on health and appearance-related qualities than they do for girls. Second, although Wright and colleagues found that girls were receiving nega-

tive support from families to engage in PA, girls in the present study did not indicate being forced to go play outside in order to take care of siblings. Third, this study qualitatively documents the perceptions of underserved adolescents on how support from two systems (parents and peers) influences two related but different health behaviors.

Despite the importance of both parents and peers, few health promotion studies have effectively integrated these systems into obesity prevention efforts. Some insight can be gained from research on adolescent risk-taking behaviors, which suggests that parents may play an important role in shaping adolescent behaviors by effectively monitoring their own child's behavior in addition to their child's peer relationships.⁶⁶ Adolescents in this study reported unhealthy eating practices and sedentary behavior when with their peers. While interventions aimed at decreasing physical inactivity in African-American families have included parent components related to monitoring adolescent behaviors,⁶⁷ none have also specifically used parental monitoring as an integrated strategy to manage peer relationships. Additionally, the fact that parents and peers may differentially provide appearance-related feedback to boys and girls further highlights the need to incorporate components into health promotion programs that address both systems. Because parents were perceived as only providing girls with positive feedback, they may be reinforcing the preference for a larger body size in girls and so minimizing the importance of maintaining a healthy weight.⁶⁸ Thus, another future direction for enhancing the effectiveness of future interventions includes increasing parent-adolescent and peer-adolescent communication around weight status and related health behaviors.

Several limitations of this study should be noted, including the small sample size and the fact that study participants were volunteers. Future research is needed to work with larger groups, because adolescents living in high-crime areas are difficult-to-reach populations. In addition, although efforts were made to ensure that youth did not previously know one another, adolescents may have also been somewhat inhibited in sharing their perceptions with a group of peers, which may have limited the overall responses obtained. Furthermore, given that youth in the present study were recruited from communities participating in a randomized community-based health trial, they may have provided different responses than youth living in communities free of an ongoing research trial. Finally, it may be beneficial to integrate other important environmental systems (*i.e.*, the local food environment) into future research with underserved youth. Despite these limitations, the qualitative data obtained in this study did yield interesting insights into how parents and peers influence youth weight status and health behaviors and has important implications for developing obesity prevention programs which integrate these two systems specifically.

Conclusions

Overall, this study contributes to the literature in several important ways, including providing the unique perspective of low-income, African-American adolescents on culturally and developmentally relevant influences on their weight status, PA, and healthy eating behavior. Findings suggest parents and peers interact in different ways with African-American boys and girls regarding their weight status and health behaviors. The fact that boys reported more positive interactions and greater tangible and emotional support than girls may be indicative of why African-American adolescent girls are projected to have the highest incidence of obesity (41.1%) by 2030, a figure 10% above the estimated national average.⁶⁹ Thus, obesity prevention efforts in minority youth may need to target parenting and communication skills that provide greater support, especially to African-American girls. In addition, given that peers influence PA and diet differently in boys and girls, parenting interventions should include monitoring peer-adolescent interactions. Improving parent-adolescent and peer-adolescent interactions around health behaviors in African-American youth may lead to greater success in obesity prevention efforts.

Acknowledgment

This article was supported by grants from the National Institute of Diabetes, Digestive, and Kidney Diseases (R01 DK067615 to Dawn K. Wilson; minority supplement R01 DK067615-02S1 to Dawn K. Wilson, Ph.D., and Sara M. St. George, M.A.) and the National Institute of Child Health and Human Development (F31 HD066944 to Sara M. St. George, M.A.).

Author Disclosure Statement

No competing financial interests exist.

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