THE PENNSLYVANIA STATE UNIVERSITY SCHREYER HONORS COLLEGE

DEPARTMENT OF HUMAN DEVELOPMENT AND FAMILY STUDIES

WEIGHT CONCERNS IN AFRICAN AMERICAN YOUTH: THE ROLE OF BODY MASS INDEX, GENDER, AND SOCIOCULTURAL FACTORS

ADENIQUE A. LISSE SPRING 2020

A thesis submitted in partial fulfillment of the requirements for a baccalaureate degree in Human Development and Family Studies with honors in Human Development and Family Studies

Reviewed and approved* by the following:

Susan McHale, Ph.D Distinguished Professor of Human Development and Family Studies Thesis Supervisor

Alyssa A. Gamaldo Assistant Professor of Human Development and Family Studies Honors Advisor

*Electronic approvals are on file in the Schreyer Honors College.

The larger study from which data for this paper were drawn was funded by the Eunice Kennedy Shriver National Institute of Child Health and Human Development, R01-HD32336, Susan McHale and Ann Crouter, Co-Pls. Thanks to Anna Hochgraf for her help with this project, the graduate and undergraduate students and staff who were involved in data collection and the participating families for their time and help.

ABSTRACT

It is imperative that weight concerns are further studied because of their negative effects on adolescents especially adolescent girls. Current research shows that more than half of adolescent girls suffer from weight concerns and some engage in dieting behaviors (Kaltiala-Heino, Kautiainen, Virtanen, Rimpela & Rimpela, 2003). However, much of this research focuses on European American youth. Theory and prior research suggest that ethnic identity and racial socialization can act as protective factors against the development of weight concerns in African American youth. Thus, the current study aimed to illuminate whether and how the association between body mass index and weight concerns differs depending on adolescents' ethnic identity and parents' racial socialization, and to test for gender differences in these links. The participants were youth from 202 African American two parent, primarily working- and middle-class families. Youth and their parents were interviewed in their homes on two occasions spaced one years apart. At Time 1, the sample was 47% female, and youth averaged 14.09 years of age (SD = 2.09). Results revealed that for African American adolescents with higher body mass indices (BMI), ethnic identity was protective against developing weight concerns. There were no gender differences in this effect. However, parents' racial socialization did not buffer the link between youth body mass index and weight concerns for girls or boys. These findings highlight the importance of studying adolescent weight concerns in their sociocultural context.

i

TABLE OF CONTENTS

LIS	ST OF TABLES	. iii
AC	KNOWLEDGEMENTS	.iv
	Chapter 1	. 1
	Introduction	
	The Role of BMI	. 3
	The Role of Ethnic Identity	. 4
	The Role of Racial Socialization	
	The Role of Gender	
	Chapter 2	. 7
	Method	. 7
	Participants	. 7
	Procedures	. 8
	Measures	. 9
	Analyses	. 10
	Chapter 3	. 12
	Results	
	Descriptive Statistics	
	BMI Predicting Weight Concerns (Main Effects Model)	. 12
	Ethnic Identity as a Protective Factor (Table 4)	
	Racial Socialization as Protective Factor (Table 4)	. 14
	Follow-up Sensitivity Analyses.	
	Chapter 4	. 15
	Discussion	. 15
	Limitations and Future Directions	
	References	. 23

LIST OF TABLES

Table 1	18
Background Statistics (N= 202 African American Families)	18
Table 2	19
Descriptive Results for Study Measures (N= 202 African American Families)	. 19
Table 3	21
Correlations between Study Variables (N=202 African American Families)	21
Table 4	22
Main Effects and Model Coefficients (β) and t- values from Regression Analyses Predictin Youth Weight Concerns	-

ACKNOWLEDGEMENTS

I would like to thank Dr. Susan McHale for all of her help thus far in assisting me in this project and providing me with many experiences within lab to be a well-rounded candidate for graduate school. I would also like to thank Anna Hochgraf, who is the PhD candidate in our lab and who specializes in weight concern research. Anna has been most helpful with the statistical analysis portion of my study, which was a huge part of the study, and also with helping to review and edit my paper. I have learned so much from both Anna and Dr. McHale.

Chapter 1 Introduction

Weight concerns refer to individuals' fears of gaining weight, concerns about body weight and shape, emphasis on the importance of weight, as well as dieting behaviors (Killen et al., 1994). In a nationally representative sample of adolescent girls aged 12-18, 25% to 40% reported that they felt fat and were dieting; even among older adolescent girls, up to 60% perceived themselves as overweight even when they were of normal weight (Kaltiala-Heino, Kautiainen, Virtanen, Rimpela & Rimpela, 2003). Research shows that as women age (30+), they place less of an emphasis on their body's appearance, which results in greater acceptance of age-related body changes and is protective of their self-esteem (Tiggemann, 2004). Thus, adolescence is a time when intervention and prevention strategies are most needed to combat weight concern issues. Importantly, although girls are more likely to be affected by weight concerns, boys are also affected: One study of adolescents at 15 years old found that 34% of girls and 21% of boys reported concerns (Micali, Ploubidis, De Stavola, Simonoff, & Treasure, 2014). In addition to its prevalence, it is also imperative to address youths' weight concerns due to their detrimental effects: Weight concerns are linked to depressive symptoms, disordered eating, lower self-esteem, and risky behavior (Killen et al., 1996; McHale, Corneal, Crouter, & Birch, 2001; Hochgraf, McHale, & Fosco, 2018). Prior research also has found a link between BMI and weight concerns such that adolescents with higher body mass indices (BMI), especially those who are overweight and obese, have higher weight concerns and body dissatisfaction than adolescents with lower BMIs (Van Den Berg, Mond, Eisenberg, Ackard & Neumark-Sztaiiner, 2010).

In order to address youth weight concerns, a key step is to examine the role of sociocultural influences. Prior research highlights the roles of parents, peers and the media as

contributors to the development of body dissatisfaction (Smolak, 2004). The Tripartite Influence model suggests that "environmental influences, such as family, peers and media, affect eating and weight-related behaviors" (Van Den Berg, Thompson, Obremski-Brandon, & Coovert, 2002, p. 1017). Parents, for example, may explicitly socialize their daughters about body size, shape, weight and health overall. One study that followed European American youth across a sevenyear period found, for example that, in years when mothers reported less acceptance of and fathers reported more conflict with their adolescents than usual, adolescents reported more weight concerns than usual, and fathers' weight concerns were linked to adolescents' weight concerns overall (Lam & McHale, 2012). Such findings highlight that both mothers and fathers play roles in their youths' weight concerns. Importantly, Ogle and colleagues showed through interview data that the strategies European-American mothers used to socialize their daughters about weight were influenced by their perceptions of (potentially damaging) sociocultural messages and by their own ideas about health (Ogle, Reddy-Best, & Park, 2017). In another study of predominantly White adolescents girls,' perceptions of their peers' desire for thinness as well as their consumption of social media that emphasized appearance predicted higher levels of body dissatisfaction and their own desire for thinness (Dohnt & Tiggemann, 2006).

These findings are consistent with an ecological framework, which highlights the role of person characteristics, social processes, and the larger context in human development (Rosa & Tudge, 2013). Grounded in this framework, the current study builds on prior research on weight concerns in adolescence, which has focused primarily on European American youth, to examine weight concerns among African American youth. In general, research on youth development and adjustment does not take into account the distinctive strengths and competencies in children of color and the protective factors in their environments that may shape their experiences and

outcomes (Coll et al., 1996). An ethnic homogenous design is imperative to examine variability among African American youth and the sociocultural experiences that may explain differences within this group. Thus, this study examined sociocultural factors that may have implications for the weight concerns of African American youth. Specifically, this study addressed three questions: (1) Does BMI predict weight concerns among African American adolescents? (2) Does the association between BMI and weight concerns differ depending on adolescents' ethnic identity or racial socialization? and (3) Are there gender differences in these links? I expected to find that BMI would be positively associated with weight concerns, such that higher BMI would predict higher weight concerns the following year, controlling for initial levels of weight concerns. I also hypothesized that the link between BMI and weight concerns would be weaker for individuals with stronger ethnic identity and more racial socialization. That is, I expected ethnic identity and racial socialization to be protective against weight concerns, especially for heavier youth. Finally, I predicted that gender would moderate these associations, such that the effects of these sociocultural factors would be stronger –or more protective—for girls given that they are at higher risk of weight concerns than boys.

The Role of BMI

Body Mass Index (BMI) is calculated by using weight (kg) divided by height (m2) and approximates body fat (Gallagher et al., 1996). Prior research has found that adolescents with higher BMIs are at greater risk for weight concerns (Calzo et al., 2012). African American adolescents tend to be heavier than their peers from other racial groups as well as have more variability in body size (Granberg, Simons, & Simons, 2009). Therefore, this study sought to test whether BMI prospectively predicted weight concerns among African American adolescents.

The Role of Ethnic Identity

Ethnic identity refers to "the part of an individual's self-concept which derives from his [sic] knowledge of his [sic] membership of a social group (or groups) together with the value and emotional significance attached to that membership," (Phinney & Ong, 2007, p. 271). A small body of research suggests that African American young women with stronger ethnic identities score higher on measures of psychological well-being, including in the domains of state anxiety, depression and psychological distress (Rakhkovskaya & Warren, 2014; Williams, Chapman, Wong, & Turkheimer, 2012). Relevant to the current investigation, a cross sectional study of African American youth revealed that those with stronger ethnic identities were less likely to internalize U.S. societal ideals regarding attractiveness and beauty-including the ideal of thinness (Wood & Petrie, 2010). One cross-sectional study of African American college-aged women also showed that ethnic identity was a significant predictor of eating and weight concerns, serving as a protective factor against negative eating habits and weight concerns (Rakhkovskaya & Warren, 2014). The current study will assess the role of ethnic identity in a homogenous African American sample to see whether ethnic identity moderates the effects of BMI on weight concerns as suggested in prior research.

The Role of Racial Socialization

Research on racial socialization aims "to understand how African American parents maintain children's high self-esteem and prepare them to understand racial barriers given systems of racial stratification in the US," (Hughes et al., 2006, p. 748). Racial socialization is multi-dimensional and includes practices pertaining to cultural socialization, preparation for bias, promotion of mistrust, and egalitarianism and silence about race (Hughes et al., 2006). In the current study, I focused on the role of cultural socialization, which refers to parents' promoting and teaching their child practices and cultural customs and pride in their cultural heritage and history (Hughes et al., 2006). Cultural socialization may be important for African American youth's weight concerns because parents' efforts to socialize their children to embrace their culture and promote their pride in being Black may lessen the effects of larger societal messages about the value of thinness. In order to foster a strong connection to culture in their children, parents may teach children about their cultural history and heritage including through stories about Black history, taking their children to Black cultural events, celebrating Black history, and providing role models as well as by financial support for clothing and hairstyling that are stereotypically Black (Hughes & Chen, 1997). In addition, prior work shows that Afrocentric cultural orientations, which refer to the "extent to which one embraces mainstream culture and his or her ethnic culture's worldview," are protective and can promote positive social, behavioral and psychological well-being, including high self-esteem in African American youth (Grills et al., 2015, p. 345). In turn, high self-esteem may be protective against developing a negative body image and corresponding weight concerns. Although empirical research on the links between racial socialization and weight concerns is very limited, one study showed that family racial socialization appeared to reduce some of the negative psychological effects of being overweight (Granberg, Simons, & Simons, 2009).

The Role of Gender

Research on weight concerns reveals gender differences, with adolescent girls and boys showing different levels and patterns of change in weight concerns. In one study of a predominately White sample, girls' weight concerns increased from early to late adolescence and then leveled off while boys' weight concerns were fewer and remained relatively unchanged (Lam & McHale, 2012). In another study of predominately White adolescents aged 13-19, females reported having more pressures from family, friends and media to lose weight, while males reported having more pressures to gain weight. This pattern resulted in males being more concerned with increasing upper body size and females being more concerned with decreasing overall body size (Ata, Ludden, & Lally, 2007). Overall, prior research has overwhelmingly shown that women experience greater body dissatisfaction and weight concerns than men, which can likely be correlated with a greater societal emphasis being placed on female attractiveness leading to lower self-esteem in women (Keating, Stephens, Thomas, Castle & Rossell, 2016; Pliner, Chaiken & Flett, 1990). Thus, in the current study, I expected to find that girls would have more weight concerns than boys, and given that girls are more at risk than boys, that sociocultural factors would be more protective for girls than for boys.

Chapter 2 Method

Participants

The data came from parents and youth in 202 two-parent families who self-identified as Black/African American; each family included fathers, mothers, and at least two adolescent-aged offspring, who participated in a short-term longitudinal study of gender socialization and development (McHale, Crouter, Kim, Burton, Davis, Dotterer, & Swanson, 2006). In this study, I focused on older siblings, from whom weight concern data were collected.

The sample for the study was generated from two mid-Atlantic urban centers that had dense African American populations. Within the recruitment area, 38% of the households included married African American parents with at least one child between the ages of 6 and 17 years. Two recruitment strategies were used. First, African Americans who lived in the targeted communities were hired to recruit families by posting flyers in local businesses, providing information on the study to local churches and other organizations, and distributing flyers at youth activities. Families who wanted to be a part of the study then contacted the recruiters and their names were passed on to the project office. Approximately half of the sample was recruited through this process. A second method of recruitment was through purchasing a marketing firm list that included names and addresses of African American students in grades 4-7 who lived in the recruitment area. Letters were sent to families describing the study and including a number to call and a postcard to return to the project office if the family fit the study criteria and wanted to participate.

The background characteristics of the participants in the sample can be found in Table 1. The families were typically working and middle class based on the family's income and parents' education. In year 1 of the study, 47% of youth were female and mean age was 14.09 (SD= 2.09). Most parents were employed (98% of both mothers and fathers), with the average family having some college education. Although the average family income in the sample was almost 90,000 (SD = 55,880), incomes ranged from 3,500 - 525,000.

Procedures

For the current study, the participants- mothers, fathers, and youth- were interviewed at home every year by two interviewers, almost all of whom were African American. In this study, I used data from years 1 and 2 (referred to as Time 1 and Time 2) when data on weight concerns were collected.

The participants were given a brief description of the study and a review of informed consent procedures at the start of the visit. Then, the family members were interviewed individually. A variety of procedures including card sorts, response cards, and questionnaires were implemented in order to maintain interests in the study. For youth under the age of 13 and family members with reading difficulties, all questions were presented orally. Interviews lasted about two hours for parents and about one hour for youth. For almost all measures of the study, family members reported on their experiences during the past year. After all interviews were completed, family members received a \$200 honorarium. The study was approved by the Institutional Review Board of the university.

Although families previously self-identified as Black or African American in the recruitment process, they were again asked whether they preferred to refer to themselves as Black or African American during the beginning of the interview. Their response during the interview, determined the way in which their race/ethnicity would be referred to during the remainder of the interview. Youth who did not live with two biological parents were also asked to state how they wished to refer to their parent figure(s), and this response also determined the way they would be referred to for the remainder of the interview.

<u>Measures</u>

Weight concerns was assessed at both Time 1 and Time 2 with a 6-item measure, the Weight Concerns Scale (Killen et al., 1996) Items assess adolescents' worries about body shape and weight, fear of weight gain, perception of being overweight, and recent dieting behavior. Example items are, "How afraid are you of gaining three pounds?" and "When was the last time you went on a diet to lose weight?" Responses for each item were rescaled to a 6-point scale and summed, with higher scores meaning higher levels of weight concerns. Killen and colleagues reported a high level of cross-time stability (r = 0.75, p < 0.01). For this sample, the standardized Cronbach's alpha for older girls was 0.77 and 0.78 for older boys at time 1 for both.

Body Mass Index (BMI) was assessed in both Time 1 and Time 2 and was calculated based on adolescents' reports of their height and weight using the formula weight (kg)/height2 (m).

Ethnic identity was assessed in Time 1 using the Multigroup ethnic Identity Measure (Phinney, 1992). Example items are, "I feel a strong attachment towards my ethnic group," "I have a lot of pride in my ethnic group," and "In order to learn more about my ethnic background, I have often talked to other people about my ethnic group." For each of the 10 items, youth used a 4-point scale, with 1 being *strongly disagree* and 4 being *strongly agree*, to rate how well the item described them over the past year. This measure has shown good internal reliability, with a standardized Cronbach alpha for the sample of 0.82 at Time 1.

Racial socialization was assessed in Time 1 using the cultural socialization subscale from a measure developed by Hughes and Chen (1997). An example item is, "I've read or provided Black history books to my child." For each of five items, mothers and fathers separately reported on their behavior using a 6-point rating scale that ranged from 1 = never to 6 = very often.

Standardized Cronbach's alpha was 0.81 for mother reports at time 1 and 0.86 for father reports at Time 1.

Covariates. Youth age and gender were reported by parents. Youth gender was coded with 0= female and 1= male.

Analyses

Descriptive statistics were conducted for all study variables. For BMI, 21.6% of observations were missing. To determine whether these data were missing at random, a dummy variable was created for each participant to represent whether or not their BMI data were missing. Then, Pearson correlations were conducted between these variable and key study variables. BMI missingness at Time 1 was not correlated with weight concerns at Time 1 (r=0.03, p = 0.69) or Time 2 (r = 0.08, p = 0.28), ethnic identity (r = 0.05, p = 0.45), mothers' racial socialization (r = -0.08, p = 0.26), fathers' racial socialization (r = -0.13, p = 0.07), or gender (r = -0.13, 0.08, p = 0.26). BMI missingness was only correlated with age (r = -0.21, p < .01), therefore, we included age in all of the analyses to address research questions. BMI had a missingness count of 44, a right skew of 1.23 and a kurtosis of 2.70. Weight concerns at Time 1 had a missingness count of 16, a right skew of 0.92, and a kurtosis of 0.21. Weight concerns at Time 2 had a missingness count of 17, a right skew of 0.96, and a kurtosis of -0.00. Ethnic identity had a missingness count of 12 and had a left skew of -0.37 and a kurtosis of 0.09. Mothers' racial socialization had a missingness count of 2, a left skew of -0.23, and a kurtosis of -0.45. Fathers' racial socialization had a missingness count of 13, a right skew of 0.14, and a kurtosis of -0.78. Gender had a missingness count of 2, a left skew of -0.12 and a kurtosis of -2.01.

Linear regression was used to address the research questions. First, weight concerns, youth age, BMI, gender, ethnic identity, mothers' racial socialization, and fathers' racial socialization at Time 1 were entered into a main effects model predicting weight concerns the

following year. Next, two-way interactions were added between BMI and ethnic identity (Model 1) and BMI and racial socialization (Model 2) to test whether ethnic identity and racial socialization moderated the link between BMI and weight concerns. Lastly, to test for gender differences in these links, three-way interactions between BMI, ethnic identity, and gender (Model 1) and BMI, racial socialization, and gender (Model 2) were added All analyses were completed in SAS version 9.4.

Chapter 3 Results

Descriptive Statistics

In terms of descriptive statistics, (Table 2), weight concerns at Time 1 had a mean of 13.19 (SD = 6.34, Range = 6.0-31.87). Weight concerns at time 2 had a mean of 12.97 (SD = 6.61, Range = 6.0-33.37). BMI had a mean of 23.46 (SD = 4.93, Range = 15.49-45.52). The average ethnic identity was 3.11 (SD = 0.42, Range = 1.76-4.0). Mothers' racial socialization averaged 21.19 (SD = 5.44, Range = 5.0-30.0) and lastly, fathers' racial socialization averaged 17.27 (SD = 6.37, Range = 5.0-30.0). It is evident from the data that the current sample of African American adolescents already had low levels of weight concerns at both Time 1 and Time 2 and average BMIs. The current sample also had high ethnic identity and high experiences of racial socialization from their mothers.

Correlations between study variables (See Table 3) indicated that weight concerns at Time 1 was moderately significant with weight concerns at Time 2 (r= .58, p<.001). Body mass index was significantly correlated with weight concerns at Time 1 (r= .37, p<.001) and weight concerns at Time 2 (r= .25, p<.01). Mothers' racial socialization was correlated with youth ethnic identity (r=.23, p<.01) and with fathers' racial socialization (r= .20, p<.001). Lastly, gender was negatively correlated with weight concerns at Time 1 (r= -.18, p<.05) and negatively correlated with weight concerns at Time 2 (r=-.30, p<.001) with girls having more weight concerns.

BMI Predicting Weight Concerns (Main Effects Model)

Results for the main effects model for BMI predicting weight concerns the following year, controlling for prior level of weight concerns, age, gender, ethnic identity, and mother and father racial socialization, indicated that the model explained 39% of the variance in weight concerns in Time 2, and the model was a significant predictor of weight concerns, F(7,124) =

11.39, p < .001. BMI did not significantly predict weight concerns at Time 2 with Time 1 weigh concerns in the model ($\beta = 0.06$, t = 0.63, p = 0.53. Only weight concerns at Time 1($\beta = 0.50$, t = 6.07, p < .0001) and gender ($\beta = -3.50$, t = -3.76, p = .0003) were significant in predicting weight concerns at Time 2; higher levels of weight concerns at Time 1 predicted higher levels of weight concerns at Time 2, and girls reported significantly higher weight concerns than boys. Age ($\beta = 0.24$, t = 0.96, p = .34), ethnic identity ($\beta = -0.65$, t = -0.54, p = .59), mothers' racial socialization ($\beta = -0.03$, t = -0.36, p = .72) and fathers' racial socialization ($\beta = -0.12$, t = -1.66, p = .10) were not significant.

Ethnic Identity as a Protective Factor (Table 4)

To address whether ethnic identity moderated the link between BMI and weight concerns, a two-way interaction between BMI and ethnic identity was added to the main effects model F(8,123)= 11.22, *p*<.0001. The two-way interaction between BMI and ethnic identity predicting weight concerns was significant ($\beta = -0.59$, *t*= -2.55, *p*= 0.01). This interaction was probed at one standard deviation above and below the mean of BMI. The simple slopes for ethnic identity indicated that, for youth with high BMIs, a one unit increase in ethnic identity was associated was a 3.30 unit decrease in weight concerns ($\beta = -3.30$, *p* = .04), however, the association was not significant for those with low BMI ($\beta = 2.52$, *p*= 0.14).

To determine whether the protective effect of ethnic identity on the link between BMI and weight concerns was stronger for girls than boys, a three-way interaction between BMI, ethnic identity, and gender was added, along with lower order interaction effects not already included in the model, F(11,120)= 8.65, p < .0001. The three-way interaction between BMI, ethnic identity, and gender was not significant ($\beta = 0.12$, t = 0.24, p = 0.81).

Racial Socialization as Protective Factor (Table 4)

To assess whether parents' racial socialization moderated the association between BMI and weight concerns, two-way interactions between BMI and mothers' racial socialization and BMI and fathers' racial socialization were added to the main effects model reported above F(12,119)=7.05, p < .0001. Neither the interaction between BMI and mothers' racial socialization ($\beta = -0.01$, t = -0.66, p = 0.5) nor BMI and fathers' racial socialization ($\beta = 0.01$, t = 0.57, p = 0.57) were significant in predicting weight concerns.

Three-way interactions between BMI, parent racial socialization, and gender were then added to test for gender differences in the links between BMI, racial socialization, and weight concerns F(14,117)= 6.42, p < .0001. Neither of the three-way interactions between BMI, parent racial socialization, and gender were significant: For the interaction with mothers' racial socialization, $\beta = -0.04$, t = -1.02, p = 0.31, and for fathers' racial socialization, $\beta = 0.06$, t = 1.94, p = 0.06.

Follow-up Sensitivity Analyses.

A sensitivity analysis was conducted to assess whether collinearity between mothers' and fathers' racial socialization (r = 0.30, p < 0.001) might account for the lack of findings for racial socialization (Model 2). Rather than including interactions for both mother and father racial socialization in the same model, the two- and three-way interactions were re-estimated separately for mother and father racial socialization, controlling for the main effect of racial socialization from the other parent. However, findings were consistent with those reported above. None of the two- or three-way interactions with BMI and gender were significant, suggesting that this null finding was not due to collinearity between mothers' and fathers' racial socialization.

Chapter 4

Discussion

Weight concerns are prevalent in adolescence, but we know little about those of African American youth. The aims of this study were to assess the longitudinal associations between BMI and weight concerns and whether the sociocultural factors, ethnic identity and parents' racial socialization, moderated the association. The current study also tested whether gender influences these linkages. It was hypothesized that both ethnic identity and racial socialization would act as protective factors against African American adolescents with higher BMIs developing weight concerns and that these factors would be more protective for girls than for boys given adolescent girls' higher rates of weight concerns.

In the current study, the interaction between BMI and youth ethnic identity revealed that African American adolescents who had high BMIs had fewer weight concerns when their ethnic identity was higher. Thus, ethnic identity acted as a protective factor against African American adolescents developing weight concerns. This finding is consisted with results from prior research by Wood and Petrie (2010) showing that African Americans with higher ethnic identity were less likely to internalize societal messages supporting a thin body ideal, which can, in turn, play a part in African Americans having few weight concerns.

Prior research also found that parents' racial socialization is associated with higher selfesteem in adolescents (Granberg, Simons & Simons, 2009), suggesting that such parental behaviors may protect against adolescents developing weight concerns. However, findings did not corroborate this hypothesis. Even when conducting a sensitivity analysis and controlling for each parent's racial socialization, the results stayed the same. At least for the present sample, parents' racial socialization failed to have protective effects. However, it is possible that parents' racial socialization may have shaped youth ethnic identity at an earlier point in development, which the findings suggested was protective. It is important to note that the current sample of African American adolescents had on average low weight concerns, and the average BMI was in a healthy range. Thus, youth in this sample may already have benefited from the relatively high level of racial socialization, particularly from their mothers.

Limitations and Future Directions

In the face of its contributions, limitations of this study suggest directions for future research. First, the sample was a predominantly healthy set of African American adolescents who generally had low weight concerns, normal BMI, high ethnic identity and high experiences of racial socialization, on average. An important step would be to collect data on a nationally representative sample and to study youth from other cultural backgrounds. For example, there are reasons to believe that Black youth from American, Caribbean and other geographic and cultural origins are socialized differently with respect eating, exercise and body image, all of which can have implications for weight concerns. This study was also limited to a one-year period in adolescence. Future research should look at different points of development and collect longer-term longitudinal data collection to determine, for example, whether racial socialization at earlier developmental stages is protective against weight concerns. Lastly, the current study was correlational in design, and thus causal conclusions cannot be drawn. An important next step is experimental research. An experimental design building off the current study, for example would examine a sample of African American youth who received an intervention to improve their ethnic identity and another sample of a control group of African American adolescents who were not given the ethnic identity strategies. This design would allow a conclusion about the causal effect of ethnic identity.

Nonetheless, this study adds to the literature on youth weight concerns, most of which has focused on Caucasian adolescents. However, the current study benefited its focus on a relatively homogeneous sample of working to middle class African American families because it allowed isolation of a factor that explained variation among youth *within* this sociocultural group. The current study also benefited from a longitudinal correlational design which allowed us to see the effects of BMI and sociocultural factors on relative changes over time in weight concerns. In addition, the study included information about both mothers and fathers' racial socialization. The inclusion of fathers' role in racial socialization expands upon much of the prior research which overemphasizes the importance of mothers' parental practices in shaping adolescents' views on body image.

Given how little weight concerns the sample had and their average BMI, ethnic identity was still found to be protective against weight concerns. BMI and weight concerns were highly stable in BMI consistently predicting weight concerns. All in all, it is important that more research is done to further look into the effects of weight concerns on African American youth.

Variable	Mean	SD	Range
Family Income	\$87,483	\$55,880	\$3,000-\$525,000
Age	14.09	2.10	9.89-22.48
Mothers' Education	14.56	1.84	9.0-19.0
Fathers' Education1	14.21	2.36	5.0-19.0

Table 1 Background Statistics (N= 202 African American Families)

112= High-school graduate/High-school equivalent (GED); 13= High-school plus vocational, technical, or job training; 14= Some college, but no degree; 15= Associate Degree; 16= College degree; 17= Some post college, but no advanced degree; 18= Master's Degree; 19= Professional degree; 20= Ph.D./Doctorate

Table 2

Variable	Mean	SD	Range
Weight Concerns Time 1	13.19	6.34	6.0-31.87
Weight Concerns Time 2	12.97	6.61	6.0-33.37
BMI	23.46	4.93	15.49-45.52
Ethnic Identity	3.11	0.42	1.76-4.0
Mothers' Racial Socialization	21.19	5.44	5.0-30.0
Fathers' Racial Socialization	17.27	6.37	5.0-30.0
Gender	0.53	0.50	0-1.00

Descriptive Results for Study Measures (N= 202 African American Families)

 Table 3

 Correlations between Study Variables (N=202 African American Families)

Variables	1	2	3	4	5	6	7	8
1. Weight concerns Time 1								
2. Weight Concerns Time 2	.58***							
3. BMI	.37***	.25**						
4. Ethnic identity	.07	03	.07					
5. Mother racial soc.	03	10	.06	.23**				
6. Father racial soc.	07	08	04	.08	.30***			
7. Gender	18*	30***	.01	.02	01	.01		
8. Age	.04	.01	.14	11	.04	03	.03	

Note: **p* < .05; ** *p*< .01; *** *p* < .001

Table 4

Main Effects and Model Coefficients (β) and t- values from Regression Analyses Predicting Youth Weight Concerns

	Main Effects		BMI X Ethnic Identity		BMI X Ethnic Identity X Gender	
	β	t	β	t	β	t
Intercept	14.87***	21.66	14.75***	21.92	14.80***	22.05
Weight Concerns Year 1	0.50***	6.07	0.52***	6.48	0.50***	6.10
Youth Gender	-3.50*	-3.76	-3.10**	-3.36	-3.21**	-3.46
Youth Age	0.24	0.96	0.18	0.75	0.11	0.44
BMI	0.06	0.63	0.10	1.03	0.22	1.59
Ethnic Identity	-0.65	-0.54	-0.39	-0.33	1.63	1.03
Mothers' racial soc.	-0.03	-0.36	-0.04	-0.41	-0.02	-0.19
Fathers' racial soc.	-0.12	-1.66	-0.13	-1.84	-0.13	-1.76
BMI X Ethnic Identity			-0.59*	-2.55	-0.55	-1.78
BMI X Gender			-0.18	-0.94	-0.31	-1.62
Ethnic Identity X Gender			-4.13	-1.80	-3.81	-1.73
BMI X Ethnic Identity X					0.07	0.14
Gender R2	0.39		.42		0.44	

	BMI X Rac	ial Socialization	BMI X Racial Socialization X Gender		
	β	t	β	t	
Intercept	14.87***	21.38	14.72***	21.14	
Weight concerns 1	0.51***	6.14	0.52***	6.19	
Youth Gender	-3.46***	-3.64	-3.24***	-3.42	
Youth Age	0.25	1.02	0.08	0.32	
BMI	0.06	0.60	0.23	1.68	
Ethnic Identity	-0.68	-0.56	-0.54	-0.44	
Mothers' racial soc.	-0.02	-0.22	-0.03	-0.23	
Fathers' racial soc.	-0.11	-1.49	-0.18	-1.71	
BMIXMothers' racial soc.	-0.02	-0.93	-0.01	-0.29	
BMIXFathers' racial soc.	0.01	0.70	-0.01	-0.73	
GenderXMothers' racial soc.			-0.04	-0.23	
GenderXFathers' racial soc.			0.19	1.27	
BMIXGender			-0.30	-1.58	
BMIXGenderXMothers ' racial soc.			-0.04	-1.02	
BMIXGenderXFathers' racial soc.			0.06	1.94	
R ₂		.40		.43	

Note: **p* < .05; ** *p*< .01; *** *p* < .001

References

- Ata, R.N., Ludden, A.B., & Lally, M.M. (2007). The effects of gender and family, friend, and media influences on eating behaviors and body image during adolescence. *Journal of Youth* and Adolescence, 36(8), 1024-1037. https://doi.org/10.1007/s10964-006-9159-x.
- Calzo, J.P., Sonneville, K.R., Haines, J., Blood, E.A., Field, A.E., & Austin, S.B. (2012). The development of associations among body mass index, body dissatisfaction, and weight and shape concerns in adolescent boys and girls. *Journal of Adolescent Health*, *51(5)*, 517-523. https://doi.org/10.1016/j.jadohealth.2012.02.021.
- Clark, L., & Tiggemann, M. (2006). Appearance culture in nine to 12-year-old girls: Media and peer influences on body dissatisfaction. *Social Development*, 15(4), 628-643. https://doi.org/10.1111/j.1467-9507.2006.00361.x.
- Coll, C.G., Crnic, K., Lamberty, G., Wasik, B.H., Jenkins, R., Garcia, H.V., & McAdoo, H.P. (1996). An integrative model for the study of developmental competencies in minority children. *Child Development*, 67(5), 1891-1914. https://doi.org/10.1111/j.1467-8624.1996.tb01834.x.
- Dohnt, H. & Tiggemann, M. (2006). The contribution of peer and media influences to the development of body satisfaction and self-esteem in young girls: A prospective study.
 Developmental Psychology, 42(5), 929-936. https://doi.org/10.1037/0012-1649.42.5.929.
- Gallagher, D., Visser, M., Sepulveda, D., Pierson, R.N., Harris, T., & Heymsfield, S.B. (1996).
 How useful is body mass index for comparison of body fatness across age, sex, and ethnic groups? *American Journal of Epidemiology*, *143*(3), 228-239.

https://doi.org/10.1093/oxfordjournals.aje.a008733.

Goldsmith, P.R. (2016). Perpetuation theory and the racial segregation of young adults. *Social Science Research*, *56*, 1-15. https://doi.org/10.1016/j.ssresearch.2015.11.004.

- Granberg, E.M., Simons, L.G., & Simons, R.L. (2009). Body size and social self-image among adolescent African American girls: The moderating influence of family racial socialization. *Youth and Society*, 41(2), 256-277. https://doi.org/10.1177/0044118X09338505.
- Grills, C., Cooke, D., Douglas, J., Subica, A., Villanueva, S., & Hudson, B. (2015). Cultural, racial socialization, and positive African American youth development. *Journal of Black Psychology*, 42(4), 343-373. https://doi.org/10.1177/0095798415578004.
- Grusec, J.E. (1992). Social learning theory and developmental psychology: The legacies of Robert Sears and Albert Bandura. *Developmental Psychology*, 28(5), 776-786. https://doi.org/10.1037/0012-1649.28.5.776.
- Hochgraf, A.K., McHale, S.M., & Fosco, G.M. (2018). Parent responsiveness and gender moderate bidirectional links between self-esteem and weight concerns during adolescence. *Journal of Family Psychology*, *32*(6), 828-834. https://doi.org/10.1037/fam0000434.
- Hughes, D., & Chen, L. (1997). When and what parents tell children about race: An examination of race-related socialization among African American families. *Applied Developmental Science*, 1(4), 200-214. https://doi.org/10.1207/s1532480xads0104_4.
- Hughes, D., Rodriguez, J., Smith, E.P., Johnson, D.J., Stevenson, H.C., & Spicer, P. (2006).
 Parents' ethnic-racial socialization practices: A review of research and directions for future study. *Developmental Psychology*, 42(5), 747-770. https://doi.org/10.1037/0012-1649.42.5.747.
- Joseph, C. & Shiffrar, M (2011). Do observers' negative self-evaluations of their own bodies mediate their visual attention towards other bodies?

http://nwkpsych.rutgers.edu/roar/EatingDisorders.html

- Kaltiala-Heino, R., Kautianinen, S., Virtanen, S.M., Rimpela, A., & Rimpela, M. (2003). Has the adolescents' weight concern increased over 20 years? *European Journal of Public Health*, 13(1), 4-10. https://doi-org.ezaccess.libraries.psu.edu/10.1093/eurpub/13.1.4.
- Keating, C., Stephens, J., Thomas, N., Castle, D.J., & Rossell, S.L. (2016). Gender differences in weight-related and non-weight-related appearance concerns in a community sample. *Australian Journal of Psychology*, 68, 11-19. https://doi.org/10.1111/ajpy.12092.
- Killen, J.D. et al. (1994). Pursuit of thinness and onset of eating disorder symptoms in a community sample of adolescent girls: A three-year prospective analysis. *International Journal of Eating Disorders*, 16(3). 227-238. https://doi.org/10.1002/1098-

108X(199411)16:3<227::AID-EAT2260160303>3.0.CO;2-L.

- Killen, J.D. et al. (1996). Weight concerns influence the development of eating disorders: A 4year prospective study. *Journal of Consulting and Clinical Psychology*, 64(5), 936-940. https://dx.doi.org/10.1037/0022-006x.64.5.936.
- Lam, C.B., & McHale, S.M. (2012). Developmental patterns and family predictors of adolescent weight concerns: A replication and extension. *International Journal of Eating Disorders*, 45(4), 524-530. https://doi-org.ezaccess.libraries.psu.edu/10.1002/eat.20974.
- McHale, S.M., Corneal, D.A., Crouter, A.C., & Birch, L.L. (2001). Gender and weight concerns in early and middle adolescence: Links with well-being and family characteristics. *Journal of Clinical Child Psychology*, 30(3), 338-348. https://doi.org/10.1207/s15374424jccp3003_6
- McHale, S.M., Crouter, A.C., Kim, J., Burton, L.M., Davis, K.D., Dotterer, A.M., & Swanson, D.P. (2006). Mothers' and fathers' racial socialization in African American families:
 Implications for youth. *Child Development*, 77(5), 1387-1402. https://doi.org/10.111/j.1467-8624.2006.00942.x.

- Micali, N., Ploubidid, G., De Stavola, B., Siminoff, E., & Treasure, J. (2014). Frequency and patterns of eating disorder symptoms in early adolescence. *Journal of Adolescent Health*, *54*, 574-581. https://dx.doi.org/10.1016/j.jadohealth.2013.10.200.
- Miller, B., & Morris, R.G. (2014). Virtual peer effects in social learning theory. *Crime and Delinquency*, 62(12), 1543-1569. <u>https://doi.org/10.1177/0011128714526499</u>.
- Ogle, J.P., Reddy-Best, K., & Park, J. (2017). Socializing girls whose bodies may not align with contemporary ideals of thinness: An interpretive study of us mothers' accounts. *Body Image*, 23, 13-27. https://doi.org/10.1016/j.bodyim.2017.07.006.
- Phinney, J.S., & Ong, A.D. (2007). Conceptualization and measurement of ethnic identity: Current status and future directions. *Journal of Counseling Psychology*, 54(3), 271-281. https://doi.org/10.1037/0022-0167.54.3.271.
- Pliner, P., Chaiken, S., & Flett, G.L. (1990). Gender differences in concern with body weight and physical appearance over the lifespan. *Personality and Social Psychology Bulletin*, 16(2), 263-273. https://doi.org/10.1177/0146167290162007.
- Rakhkovskaya, L.M. & Warren, C.S. (2014). Ethnic identity, thin-ideal internalization, and eating pathology in ethnically diverse college women. *Body Image*, *11(4)*, 438-445. https://doi.org/10.1016/j.bodyim.2014.07.003.
- Richmond, T.K., Hayward, R.A., Gahagan, S., Field, A.E., & Heisler, M. (2006). Can school income and racial/ethnic composition explain the racial/ethnic disparity in adolescent physical activity participation? *Pediatrics*, *117(6)*, 2158-2166. https://doi.org/10.1542/peds.2005-1920.

- Rosa, E.M., & Tudge, J. (2013). Urie Bronfenbrenner's theory of human development: Its evolution from ecology to bioecology. *Journal of Family Theory and Review*, 243-258. https://doi.org/10.1111/jftr.12022.
- Shah, N.R., & Braverman, E.R. (2012). Measuring adiposity in patients: The utility of body mass index (BMI), percent body fat, and leptin. *PLoS One Journal*, 7(4), 1-8. <u>https://doi.org/10.1371/journal.pone.0033308</u>.
- Skinner, O.D., McHale, S.M., Wood, D., & Telfer, N.A. (2018). Gender-typed personality qualities and African American youth's school functioning. *Journal of Youth and Adolescence*, 48(4), 680-691. https://doi.org/10.1007/s10964-018-0919-1.
- Smolak, L. (2004). Body image in children and adolescents: Where do we go from here? *Body Image*, *1*(*1*), 15-28. https://doi.org/10.1016/s1740-1445(03)00008-1.
- Stice, E., Nemeroff, C., & Shaw, H.E. (1996). Test of the dual pathway model of bulimia nervosa: Evidence for dietary restraint and affect regulation mechanisms. *Journal of Social* and Clinical Psychology, 15(3), 340-363. https://dx.doi.org/10.1521/jscp.15.3.340.
- Taylor, R. (1990). Interpretation of the correlation coefficient: A basic review. *Journal of Diagnostic Medical Sonography*, 6(1), 35-39. https://doi.org/10.1177/875647939000600106.
- Thogersen-Ntoumani, C., Yin Ng, J.Y., Ntoumanis, N., Chatzisarantis, N., Vlachopoulos, S., Katartzi, E.S., & Nikitaras, N. (2016). Mum's the word: Predictors and outcomes of weight concerns in pre-adolescent and early adolescent girls. *Body Image, 16*, 107-112. https://doi.org/10.1016/j.bodyim.2015.12.004.
- Tiggemann, M. (2004). Body image across the adult life span: stability and change. *Body Image*, *1(1)*, 29-41. https://doi.org/10.1016/S1740-1445(03)00002-0.

- Van Den Berg, P.A., Mond, J., Eisenberg, M., Ackard, D., & Neumark-Sztainer, D. (2010). The link between body dissatisfaction and self-esteem in adolescents: Similarities across gender, age, weight status, race/ethnicity, and socioeconomic status. *Journal of Adolescent Health*, 47(3), 290-296. https://doi.org/10.1016/j.jadohealth.2010.02.004.
- Van Den Berg, P., Thompson, K.J., Obremski-Brandon, K., & Coovert, M. (2002). The tripartite influence model of body image and eating disturbances: A covariance structure modeling investigation testing the mediational role of appearance comparison. *Journal of Psychosomatic Research*, *53*(*5*), 1007-1020. https://doi.org/10.1016/S0022-3999(02)00499-3.
- Williams, M.T., Chapman, L.K., Wong, J., & Turkheimer, E. (2012). The role of ethnic identity in symptoms of anxiety and depression in African Americans. *Psychiatry Research*, 199(1), 31-36. https://doi.org/10.1016/j.psychres.2012.03.049.
- Wood, N.A.R., & Petrie, T.A. (2010). Body dissatisfaction, ethnic identity, and disordered eating among African American women. *Journal of Counseling Psychology*, *57*(2), 141-153. https://doi.org/10.1037/a0018922

Adenique A. Lisse

CAREER OBJECTIVE

I am an undergraduate student at the Pennsylvania State University and the Schreyer Honors College and a McNair Scholar. I am majoring in Human Development and Family Studies and minoring in Psychology. I have focused on developing my knowledge of statistical software such as SAS and SPSS; as well as research, writing, and crisis management skills through coursework and out of class experiences. I am interested in attaining a PhD in Clinical Psychology and expanding trauma research. Research areas of interest include: trauma, PTSD, stress, intimate partner violence, and military families.

EDUCATION

The Pennsylvania State University

August 2016-May 2020

- Schreyer Honors College
- Major: Human Development and Family Studies | Minor: Psychology

Relevant Coursework (**indicates course in progress*):

Introduction to Clinical Psychology*, Introduction to Abnormal Psychology*, Introduction to Personality Psychology*, Cognitive Development*, Honors Research Seminar/Methods, Empirical Inquiry (research writing), Introduction to Social Psychology, Special Topics: Military Families Challenges and Support*, Value/Ethics, Statistics, Introduction to Psychology, History of Madness, Mental Illness and Psychiatry, Developmental Transition to Adulthood, Advanced Childhood Development*

RESEARCH EXPERIENCES

Dr. Susan McHale's Family Relationships Lab

Research Assistant

October 2018-May 2020

- The lab focuses on longitudinal data on three different types of populations (European-American families, African-American families, and Mexican-American families). These studies gathered information on the perspectives and experiences of four family members- mothers, fathers, and two adolescent-age siblings and paid close attention to familial and extra-familial contexts, especially those features pertaining to parents' work and family roles, and sociocultural factors.
- Committed 9 hours per week
- Prepared and presented a research paper on The Role of Gender and Sociocultural Factors in Weight Concerns in African American Youth
- Carried out a variety of research activities for participant recruitment, protocol development, and data presentations

Dr. Amy Marshall's Relationship and Stress Research Lab

September 2019-May 2020

Research Assistant

- The lab focuses on how posttraumatic stress disorder (PTSD) interacts with social information processing (e.g., attention to threat, recognition of emotions) to lead to relationship dysfunction and aggression
- Committed 6 hours per week
- Prepared audio files for pitch analysis using Audacity vocal processing software
- Reviewed and analyzed literature on intimate partner violence and PTSD
- Carried out data coding and data management activities

PRESENTATIONS

OGEEP McNair presentation

July 2019

• Lisse, A., (2019). The role of gender and sociocultural factors on african american adolescents' weight concerns, *oral presentation*.

UMBC Research Conference

September 2019

• Lisse, A., (2019). The role of gender and sociocultural factors on african american adolescents' weight concerns, *poster presentation*.

PUBLICATIONS

• Lisse, A., (2019). Weight concerns in african american youth: The role of gender and sociocultural factors, *Penn State McNair Journal.* (*in progress for Spring 2020*)

VOLUNTEER

Centre Safe's Sexual Violence and Domestic Abuse Crisis Hotline Advocate/Counselor

Crisis

September 2019-May 2020

- Training to facilitate emergency protection abuse orders
- Training in crisis management
- Training to facilitate 24-hour crisis hotline calls and assist clients in creating effective and safe solutions to their crises
- Completed a self-directed 5-hour certification training on domestic violence and sexual assault counseling
- Certified in trauma-informed, survivor-centered advocacy and in understanding and responding to crisis
- Training in empowerment-based counseling
- Training to respond to sexual assault evaluations at Mount Nittany Medical Center and serve as an advocate for victims

Altoona Nursing Home

October 2017- December 2017

• Mentored an older adult and aided in physical and nutritional health

Mentor

- Tracked eating habits and physical activity
- Implemented various exercises and games to promote healthy living

Logan Hills Afterschool Program

February 2018- April 2018

- Worked with young children
- Planned lesson plans and activities to teach core values including bullying prevention and scientific literacy through completing science experiments

EMPLOYMENT

The New York Times

July 2016-August 2016

- Performed administrative work, including scheduling and file maintenance
- Tracked employment information in database
- Organized employee expense reports
- Assisted with book fair
- Organized the real estate division's website

Alphadyne Asset Management Firm

July 2015-August 2015

- Revised marketing documents to reflect comments from personnel
- Tracked and updated employee expense reports
- Participated in weekly team meetings
- Created spreadsheets and presentations for client meetings and internal initiatives

Strook & Strook Lavan LLP

July 2012

- Researched case documents and participated in mock trial
- Assisted attorneys with court documents
- Organized and filed court documents

Children's Law Center

July 2012

- Summarized documents to assist with case handlings
- Shadowed attorneys during court conferences assisted client interviews

Bronx Defenders

July 2012

- Participated in know-your-rights lectures involving stop-and-frisk and police custody
- Shadowed attorneys during criminal trials

SKILLS/CERTIFICATES

Mentor

Legal Outreach Intern

Legal Outreach Intern

Legal Outreach Intern

HR Assistant

HR Assistant

- Communication skills attained from debate and mock trials through the legal outreach program
- Writing skills from completing Saturday writing classes through the legal outreach program
- Mentorship skills through working with older adults and aiding in physical and nutritional health at the Altoona Nursing Home as well as working with children at the Logan Hills Afterschool Program
- Proficient with SPSS Statistics analytics
- Proficient with SAS statistics analytics
- Proficient with Qualtrics
- Proficient with Microsoft excel, PowerPoint and Word
- IRB Certificate
- Good Clinical Practice Certificate
- REDCap training
- "Trauma-informed, survivor-centered advocacy" training certificate
- "Understanding and responding to crisis" training certificate

AWARDS/ACHEIVEMENTS

- Schreyer Honors College
 - Expected to maintain a semester and cumulative GPA of 3.40
 - Complete 14 honors credits
 - Completed an approved thesis
- Ronald E. McNair Scholar
 - GRE preparation seminar
 - 8-week summer research training
 - Research publication and presentations
 - Professional development colloquia
- The New York Times Scholarship recipient
- Legal Outreach Scholar
- Alpha Lambda Delta Honor Society
- Sigma Alpha Pi Honor Society
- O'Melveny and Myers Scholarship recipient
- Dean's list

2016-2019