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Life Dissatisfaction and Eating Behaviors Among Older African Americans: The Protective Role of Social Support

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Abstract

Objectives—To examine (a) the influences of life dissatisfaction and dietary social support on eating behaviors (a high-fat diet and fruit/vegetable consumption) of older African Americans and (b) the moderating role of perceived dietary social support on the association between their life dissatisfaction and unhealthy eating behaviors.

Design—Baseline data from a larger intervention study of mid-life and older African Americans. The study incorporated a quasi-experimental design with random selection of participants, stratifying for age and gender.

Setting—Six churches in North Florida.

Participants—One hundred and seventy-eight (132 females and 46 males with a median age of 60) older African Americans.

Measurements—A structured questionnaire elicited personal data as well as information on eating behaviors, life dissatisfaction, and perceived dietary social support.

Results—Older African Americans with more cumulative life adversity, as reflected by high life dissatisfaction, had significantly poorer eating behaviors including the consumption of a high-fat diet and low intake of fruits and vegetables. Older African Americans' dietary choices were also associated with their perceived social support. More importantly, perceived social support acted as a buffer to mitigate the influence of life dissatisfaction on older African Americans' eating behaviors.

Conclusion—Life dissatisfaction places older African Americans at risk for unhealthy eating behaviors. However, high levels of dietary social support can protect older African Americans from the influence of life dissatisfaction on unhealthy eating behaviors. There are practical implications of this research for health interventions and programming.

Keywords

Life dissatisfaction; social support; eating behavior; African American

The health of African Americans continues to be a major concern. National data show that African Americans experience higher age-adjusted morbidity and mortality rates than Caucasians (1) and engage in more health risk behaviors (e.g., low consumption of fruits and vegetables, high fat intake, and physical inactivity) (2). These health risk behaviors are related to various preventable health problems, such as obesity, hypertension, and diabetes which are highly prevalent in African Americans (3, 4).

These health risk behaviors (e.g., low consumption of fruits and vegetables and high fat intake) are associated with life dissatisfaction (8, 9). However, most studies have examined primarily Caucasian, well-educated samples or adolescent samples. Global and domain-specific social support has been shown to mitigate adverse health behaviors including poor eating (10, 11). Although research with African Americans has established the association between social support and eating behaviors (11, 12), to our knowledge, the moderating role of social support has not been established for older African Americans.

Life Dissatisfaction and Health Risk Eating Behaviors

Drawing from existing literature on life dissatisfaction and eating behavior (8, 12, 13), older African Americans' life dissatisfaction may be connected to their risky eating behaviors due to psychological and/or structural mechanisms. Internalized cumulative life dissatisfaction may generate feelings of stress and negative emotions. As a psychological mechanism, this stress and negative emotion may trigger unhealthy eating behaviors as a coping response (14, 15). Additionally, the adverse conditions likely associated with overall life dissatisfaction (e.g., poor work and community conditions, economic hardships) are structural mechanisms known to restrict access to healthy foods due to limitations of time, finances, and food availability (e.g., transportation to the grocery store for fresh produce) (16).

These mechanisms are particularly relevant for African Americans because they are disproportionately exposed to adverse conditions (e.g., racial discrimination, minority stress, adverse work and community conditions, and economic hardships) throughout their lives (17, 18, 19, 20). Thus, they may be more likely to experience high levels of life dissatisfaction which can trigger the previously mentioned psychological and structural mechanisms that may link life dissatisfaction to risky eating behaviors (i.e., a high-fat diet and lack of accessible fruits and vegetables).

Protective Role of Social Support

We hypothesize that domain-specific social support will also directly influence the eating behaviors of older African Americans. In studies with predominantly Caucasian samples social context variables, including global and domain-specific support, were positively associated with the consumption of fruits and vegetables (11, 21, 22). Although research has

documented the central role of social support in minority cultures, particularly for African Americans (23, 24), very little research has investigated the association between interpersonal processes and eating behaviors for older African Americans with the exception of a recent study finding elements of social support are associated with dietary quality (25).

Furthermore, a meta-analytic review concluded that social support serves to mitigate the effect of numerous risk factors associated with unhealthy eating behaviors (10). Thus, we hypothesize that domain-specific fruit and vegetable social support (hereafter referred to as dietary social support) will serve as a protective factor whereby the influence of life dissatisfaction on unhealthy eating habits is stronger for those with low levels of dietary social support.

In the present study, we will examine whether (a) life dissatisfaction and dietary social support exert unique influences on eating behavior (i.e., the consumption of a high-fat diet and fruit and vegetable intake), and (b) whether older African Americans' perceived dietary social support moderates the influence of life dissatisfaction on their eating behaviors.

Method

Sample

Baseline data from six churches participating in the NIH-funded Health for Hearts United Project (26) in North Florida were used for the current study. Respondents included 178 older African American men and women (69% female, 31% male). Respondents' educational attainment ranged from some high school ($n = 15$; 8.4%) to Ph.D. ($n = 2$; 1.1%). The most common educational levels were high school graduate ($n = 51$; 28.7%) and some college experience ($n = 60$; 33.7%). One hundred and eighteen respondents (66.3%) were between 43-63 years of age, 43 respondents (24.2%) were between 64-77 years of age, and the remaining 17 respondents were 78 years of age or older (9.6%). On average, respondents were married (43.2%) with two children (26.8%). For the variables included in this study, the frequency of missing data ranged from 0 cases (high-fat diet consumption) to 9 cases (4.8%; life dissatisfaction). This study used full information maximum likelihood (FIML) to estimate missing data. Compared to other procedures for dealing with missing data (e.g., substitution methods such as listwise deletion), FIML provides more efficient parameter estimates (27).

Measures

Outcome Variables: Dietary Choices

Fruit and Vegetable Consumption: A single item assessed the number of fruits and vegetables respondents typically eat in a day with seven response categories ranging from “zero” to “six or more.”

High-Fat Diet: Five items from the fat intake stages of change instrument (28) assessed respondents' consumption of a high-fat diet. Respondents answered the following questions with yes/no answers (1 = yes, 2 = no): “Do you almost always take the skin off your chicken?” “Do you often eat reduced fat or low fat cheese?” “Do you often use light, fat

free, or no salad dressing?” “Do you sometimes eat fruit and vegetables as snacks?” and “Do you often eat bread, rolls, or muffins without butter or margarine?” A sum score was computed with higher values indicating a high-fat diet.

Life Dissatisfaction—Four items from the Satisfaction With Life Scale (SWLS; 29) were used to assess life dissatisfaction on a 7-point scale ranging from “strongly disagree” to “strongly agree.” Items included: “In most ways my life is close to my ideal,” “The conditions of my life are excellent,” “I am satisfied with my life,” and “So far I have gotten the important things I want in life.” Sum scores were computed and recoded so that higher scores indicate life dissatisfaction ($\alpha = .86$).

Dietary Social Support—Five items from the processes of change instrument (30) were used to assess dietary social support over the past month using a 5-point scale ranging from “never” to “repeatedly.” Items included: “I had someone I could rely on to support my decision to eat more vegetables and fruits,” “I tried to eat with people who are also eating more fruit and vegetables,” “My family praised me for eating fruits and vegetables,” “I had somebody who helped me prepare fruits and vegetables,” and “I associated with other adults who like eating vegetables and fruits.” Items were summed, and higher scores indicate the presence of more dietary social support ($\alpha = .80$).

Analyses

Structural equation modeling (SEM) was used to analyze the influence of older African Americans' perceived life dissatisfaction and dietary social support on their dietary choices (as measured by their consumption of a high-fat diet and fruits and vegetables) controlling for marital status, education, age, and gender using AMOS 17.0 (31). The moderating, or buffering, role of dietary social support on the association between life dissatisfaction and dietary choices was also examined using mean splits to determine if the association between life dissatisfaction and dietary choices differed for those with low and high levels of perceived dietary social support. Goodness-of-fit was assessed using the chi-square statistic, comparative fit index (CFI), and root mean square error of approximation (RMSEA). CFI values greater than .93 (32) and RMSEA values less than .05 (33) are thought to indicate a good model fit.

Results

Table 1 presents descriptive statistics for all study variables. On average, participants “slightly” disagreed that they were dissatisfied with their life ($M = 10.57$, $SD = 6.24$) and reported “seldom” having dietary social support ($M = 13.11$, $SD = 4.75$). Overall, respondents consumed a fairly high-fat diet ($M = 7.25$, $SD = 1.25$) and 2.32 ($SD = 1.23$) servings of fruits and vegetables daily. Bivariate correlations were as expected (see Table 2). Life dissatisfaction and dietary social support were not significantly associated ($r = -.13$). Life dissatisfaction and dietary social support were both associated with the consumption of fruits and vegetables ($r = -.19$, $p < .01$ and $r = .26$, $p < .01$, respectively) and a high-fat diet ($r = .23$, $p < .01$ and $r = -.16$, $p < .05$). Control variables were not significantly associated with

the outcome variables with the exception of age and the consumption of a high-fat diet ($r = -.15, p < .05$).

Figure 1 displays the model examining the influence of life dissatisfaction and dietary social support on older African Americans fruit and vegetable intake and high-fat diet after controlling for marital status, education, age, and gender. Older African Americans' life dissatisfaction was associated with the consumption of a high-fat diet ($\beta = .22, p < .01$) and decreased fruit and vegetable consumption ($\beta = -.16, p < .05$). Dietary social support promoted fruit and vegetable consumption ($\beta = .25, p < .01$) and was marginally associated with the decreased consumption of a high-fat diet ($\beta = -.13, p < .10$). Life dissatisfaction and dietary social support were not significantly correlated ($r = -.12$). Likewise, the consumption of a high-fat diet and fruits and vegetables were not significantly correlated ($r = -.11$) which demonstrates that these are two distinct eating behaviors. Overall, this model fit the data well (CFI = 1.00, RMSEA = .00, and $\chi^2 = .89(df=2)$).

Figure 2a shows that life dissatisfaction is significantly associated with the consumption of a high-fat diet for older African Americans with low levels of perceived dietary social support ($\beta = .37, p < .05$) but not for those with high levels of perceived dietary social support ($\beta = .02, p > .05$). Figure 2b shows that the influence of life dissatisfaction on the consumption of fruits and vegetables is greater for older African Americans who receive less dietary social support ($\beta = -.24, p < .05$) than for African American who receive more social support ($\beta = -.14, p < .05$). The statistical significance of these interactions was tested within a multiple regression analysis using cross-product terms between dietary social support and life dissatisfaction for each dependent variable. For the regression model explaining the consumption of a high-fat diet, the product term was statistically significant ($\beta = -.10, p < .05$). However, for the model explaining the daily servings of fruits and vegetables, the product term was not statistically significant ($\beta = .06, p = .12$). We believe that the small sample size may have contributed to the non-significance of this test.

Discussion

Older African Americans with high perceived dietary social support and low levels of life dissatisfaction reported consuming more fruits and vegetables and lower fat diets than older African Americans with low dietary social support and high life dissatisfaction. Marital status, educational attainment, age, and gender were not significantly associated with older African Americans' dietary choices.

The associations between life dissatisfaction and high-fat diet consumption was moderated by dietary social support such that high perceived dietary social support acted as a buffer to mitigate the influence of life dissatisfaction on dietary choices. Auxiliary multiple regression analyses to determine the statistical significance of this interaction supported the buffering influence of dietary social support for the consumption of a high-fat diet but not for fruit and vegetable consumption. These findings extend on previous literature by showing that adverse experiences across the life-course (i.e. cumulative life dissatisfaction) may contribute to risky health behaviors for older African Americans and dietary social support may moderate this relationship. Although our analysis was limited to dietary social support,

there is reason to believe these findings may apply to more generalized social support as well because research suggests that global and domain-specific social support both affect eating behavior (10, 11). However, future research should examine dietary social support and general social support simultaneously to more fully elucidate the association between these concepts.

The lack of a statistically significant correlation between older African Americans' consumption of a high-fat diet and fruits and vegetables suggests that, for the current sample, these dietary choices are not related to each other. Thus, it should not be assumed that older African Americans who frequently consume fruits and vegetables eat a healthy diet that is also low in fat. This finding indicates the importance of studies examining multiple eating behaviors simultaneously. However, it should also be noted that the non-significant correlation could be a product of the measures used in the current study. Our measure of dietary fat intake was limited to five items and does not include some of the major sources of dietary fat. Also, reliance on a single item to measure fruit and vegetable consumption has been shown to lead respondents to underestimate their daily intake (34). This differential reporting may explain why the mean fruit and vegetable consumption for the current sample ($m = 2.32$ servings/d) was lower than a similar sample of African American churchgoers ($m = 3.7$ servings/d) (35) which used a more comprehensive measure of fruit and vegetable consumption.

Older African Americans are at increased risk for high levels of cumulative life dissatisfaction due to the many adversities they may have faced over the years, including intense overt discrimination that was more prevalent in previous decades (36, 37). Prevention and intervention focusing on this vulnerable group should take their life dissatisfaction and perceived dietary social support into consideration. Because research has shown that psychological and structural mechanisms may connect life dissatisfaction to eating behaviors (10, 17, 18), interventions focused on decreasing the negative affect and structural constraints often associated with life dissatisfaction may lead to greater life satisfaction and healthier food choices. Furthermore, this research illustrates the importance of increasing and maintaining older African Americans' social support systems as these can be sources of dietary support.

There are several limitations which should be noted. Because our sample was drawn from churches, the findings may not generalize to individuals who are not churchgoers. Furthermore, data from a national sample may yield different conclusions. Because of the use of self-report data only, other methods may reach different conclusions. Future research should use multiple 24-hour recall data for dietary assessment. Furthermore, it would be useful for future studies to rely on more comprehensive measures of fat consumption and fruit and vegetable intake that are validated for use in older African American samples.

Despite these limitations, the present study makes a unique contribution regarding the influence of cumulative life dissatisfaction and dietary social support on older African Americans eating behaviors. This study demonstrates that older African Americans' eating behaviors may be linked to their experiences of adversity across the life-course. More importantly, the results revealed the role that dietary social support can play in protecting

older African Americans from the detrimental health consequences of poor dietary choices. This knowledge can be applied to increase the effectiveness of health programming efforts with older African Americans.

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Figure 1. The influence of life dissatisfaction and dietary social support on the consumption of a high-fat diet and fruits and vegetables

Note. $+p < .10$. $*p < .05$. $**p < .01$; Standardized coefficients are shown with corresponding t values in parentheses

Figure 2. Graphical presentations for the moderating role of dietary social support on the association between the life dissatisfaction and the consumption of (a) a high-fat diet and (b) fruits and vegetables

Table 1
Descriptive Statistics for All Study Variables

Study variables	Mean	Standard Deviation	Range	Alpha
Life dissatisfaction (score)	10.565	6.242	4-28	.864
Dietary social support (score)	13.110	4.747	5-25	.801
Fruit/vegetable (servings/day)	2.320	1.233	0-6	--
High-fat diet (score)	7.253	1.250	5-10	--

Table 2

Correlation Coefficients for All Study Variables

Study variables	1	2	3	4	5	6	7	8
1. Married	1.00							
2. Age	-.235**	1.00						
3. Female	.306**	-.064	1.00					
4. Education	.116	-.135	.012	1.00				
5. Life dissatisfaction	.113	-.336**	.042	-.037	1.00			
6. Dietary social support	.129	.229**	.113	-.063	-.132	1.00		
7. Fruit/vegetable consumption	-.027	.114	-.062	-.042	-.192**	.261**	1.00	
8. High-fat diet	-.005	-.153*	.024	.007	.228**	-.157*	-.176*	1.00

*
p < .05.**
p < .01.