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Household income and spiritual well-being but not body mass index as determinants of poor self-rated health among African American adolescents

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Abstract

Very little is known about predictors of subjective health status among African American adolescents. This study was designed to determine whether selected anthropometric, psychological, lifestyle behavioral, and structural variables predicted poor self-rated general health in a cross-sectional non-clinical sample of 310 female African American adolescents, 14 to 18 years old. The odds of reporting poor self-rated health were 2 to 3 times greater for African American teens from lower socioeconomic households when compared to teens residing in higher socioeconomic households and for those reporting infrequent participation in activities that promote spiritual well-being compared to those who participate more frequently in activities that enhance spiritual health. Findings indicate that socioeconomic level and engagement in behaviors that enhance healthy spirituality appear to be the most salient predictors of self-rated health. In addition to biodiversity considerations that influence perceptions of health status, culturally focused interventions should integrate variables shown to influence self-rated health among African American teens. These inclusions may inform a more integrated understanding of health, health outcomes, and health disparities in this vulnerable population.

Keywords

African Americans; adolescents; health status; obesity

Self-rated health (SRH) is a widely used global indicator of future health outcomes. Recognized as a broad summary measure of general well-being, SRH is most frequently measured using a single question that asks respondents to rate their overall health on a scale from excellent to poor. The resulting responses are often dichotomized as poor versus the remaining groupings. SRH is generally accepted as a highly reliable and valid predictive of population health and has been used in large-scale surveillance studies of health status (Liao et al., 2011). An extensive body of evidence documents that even after adjustment for other measured health related covariates, individuals who perceive their health negatively demonstrate significantly increased odds for morbidity, all-cause mortality and disability than their counterparts reporting excellent or good health (DeSalvo, Bloser, Reynolds, He, & Muntner, 2006; Gander et al., 2011; Idler & Benyamini, 1997).

Recently researchers have also documented associations between poor SRH and several cardio-metabolic and immunologic disease trait biomarkers (Nakata, Takahashi, Otsuka, & Swanson, 2010; Tomten & Hostmark, 2007). Based on the strengths of findings in the extant literature, measures of SRH have been recommended for use in population health monitoring by domestic and international public health organizations including the Centers for Disease Control and Prevention (CDC), European Union, and World Health

Organization (de Bruin, Picavet, & Nossikov, 1996; Hennessy, Moriarty, Zack, Scherr, & Brackbill, 1994; Kramers, 2003). Moreover, a 2009 report by The Institute of Medicine (2009) highlighted the importance of perceived health status by endorsing the use of "poor" SRH as a benchmark for tracking health evolution in the United States.

A number of previous researchers have identified measured anthropometric trait variables as potential predictive risk parameters for poor SRH. Chief among these characteristics is body mass index (BMI). BMI is generally considered to be a reliable, indirect indicator for body fatness and is commonly used to define normal weight, overweight and obesity among adults and children. Increasing BMI has been linked with self-reporting reduced health in several ethnically diverse adult populations. A comparative overview of the SRH-related literature found that in some instances the odds of an overweight adult reporting poor health were three times greater than for adults who were not overweight (Okosun, Choi, Matamoros, & Dever, 2001; Phillips, Hammock, & Blanton, 2005; Prosper, Moczulski, & Qureshi, 2009).

Among adolescent populations, however, the science addressing the relationship between BMI and SRH is not well established. Although earlier researchers have documented a link between increasing BMI and a poor SRH status among youth (Swallen, Reither, Haas, & Meier, 2005; Vingilis, Wade, & Seeley, 2002), more recently divergent, even contradictory findings regarding the impact of BMI on SRH among young people have been identified. For example, using data collected from a representative sample of U.S. high school students, Foti and Eaton (2010) were unable to support a pattern of association between BMI and SRH. Darviri, Artemiadis, Tigani, and Alexopoulos (2011) reported similar findings with a Greek sample that included adolescent participants 15–19 years of age.

Similar to the potential influence of BMI on SRH reporting, evidence suggests that low global self-esteem may also contribute to reporting low self-ratings of health. Global self-esteem is generally defined as the way one characteristically feels about oneself (Harter, 1999, 2003). Within the general population low global self-esteem has been found to co-occur with several mental and physical health risk factors including substance abuse, depression and obesity. (DiClemente et al., 2005; Donnellan, Trzesniewski, Robins, Moffitt, & Caspi, 2005; Wang, Wild, Kipp, Kuhle, & Veugelers, 2009). In a limited number of studies, these risk vulnerabilities have, in turn, been shown to exert an effect on an individuals' perception of both their current and future health status (Axelsson & Ejlertsson, 2002; Hasson, Arnetz, Theorell, & Anderberg, 2006). In an even smaller number of studies, consisting largely of adults, co-occurring global self-esteem and obesity have shown some function as a contributory factor to perception of wellness and scorings of SRH (Rohrer & Young, 2004). To promote a more robust understanding of the global self-esteem-SRH phenomena additional study is needed in this area with a variety of populations.

In addition to the risk that psychological variables such as lowered global self-esteem may pose to SRH, lifestyle risk behaviors such as physical inactivity have increasingly been linked with poor SRH in both domestic and international populations. It has been well documented that regular physical activity is a fundamental component to a first-class health status. Researchers have found that at similar levels of physical functioning, individuals who participated less frequently in physical activity tended to report lower SRH. Using Greek and Swedish cohorts in cross-sectional and longitudinal studies, Darviri et al., (2011) and Elinder, Sundblom, and Rosendahl (2011) reported significant associations between poor SRH and low physical activity. Lower participatory frequency in physical activity was also found to correlate with a lower perception of SRH in a sample of Spanish adults (Galan, Meseguer, Herruzo, & Rodriguez-Artalejo, 2010).

Literature that currently informs knowledge about African American adolescents' SRH is sparse. However, an extensive body of medical research has shown that decreased physical activity has significant direct and indirect health risks among adolescents. Reciprocally, these lifestyle risk behaviors may have major implications for SRH among youth. Furthermore, national surveillance data using self-report indices of physical activity levels showed that female African American adolescents had a higher prevalence of physical inactivity than their European American counterparts (CDC, 2011; Thompson & Barksdale, 2010, Whitt-Glover et al., 2009). In the absence of targeted research, the documented relationship between physical activity and morbidity risk would support the postulation of a link between physical activity and SRH among members of this population subgroup.

Low levels of participation in lifestyle behaviors that promote spiritual well-being have also demonstrated risk potential for reporting lower ratings of health. A plethora of literature has identified spiritual involvement as a major component of health and well-being among African Americans (Carter, 2002; Dessio, Wade, Chao, Kronenberg, Cushman, & Kalmuss, 2004; Musgrave, Allen, & Allen, 2002). Spirituality is often conceptually viewed as a multidimensional construct that is both personal and intangible (Coyle, 2002; Turner-Musa & Lipscomb, 2007). Outward expressions of spirituality among African Americans are seen in activities such as prayer or meditation, attending church, espousing belief in a transcendent being, and proselytizing spiritual ideals (Newlin, Knafl, & Melkus, 2002; Oman & Thoresen, 2005). Moreover, spirituality and its expressive behaviors have been shown to influence health and well-being among adolescents (Cotton, Zebracki, Rosenthal, Tsevat, & Drotar, 2006; Dew et al., 2008; Rew & Wong, 2006). Only a few researchers, however, have examined the impact of spirituality on SRH among youth. In one such study conducted with a U.S. cohort of suburban college students, a significant association between perceived spirituality and perceived health status was found (Zullig, Ward, & Horn, 2006). Results obtained from the few studies with young people corroborate, closely, although not exactly, conclusions generated with adults, suggesting that lifestyle behaviors may vary by age. More research is needed to definitively establish whether these behaviors influence SRH status among adolescents.

In addition to the anthropometric, psychological, and lifestyle behavior variables hypothesized to influence SRH, structural variables such as household income, an indicator of socioeconomic level (SEL), may also exaggerate reporting differences in SRH (Alexopoulos & Geitona, 2009; Subramanian, Kim, & Kawachi, 2005). According to the theory of differential vulnerability, the effect of perceived health may vary by socioeconomic groups and subsequently to reduced access to materials and/or conditions that promote physical and mental prosperity (Kessler, 1979; Kessler & Cleary, 1980). It is generally acknowledged by the scientific community that individuals within the lower SEL strata often have reduced access to materials and/or conditions that promote health and well-being. In the U.S., substantial ethnic variation exists with respect to SEL stratification.

One of the most significant challenges within the African American community is poverty. Currently, the unemployment rate for African Americans is double that of European Americans (Office of Minority Health, 2011). African American children are three times more likely to live in poverty than European American children (Costello, Keeler, & Angold, 2001). Consequently, the likelihood of reporting a compromised health status increases as SEL vulnerability increases (Goodman, Huang, Schafer-Kalkhoff, & Adler, 2007; Prus, 2011). This is particularly significant for female African American adolescents, for whom, well-documented disparities in health status persist throughout their lifespan (Eaton et al., 2010; Mayer-Davis et al., 2009; Ogden & Carroll, 2010).

Despite the ubiquitous application of SRH as a useful epidemiological measure, research supporting the relationships among anthropometric, psychological, lifestyle behavioral, and structural variables with SRH has been mostly limited to international nonclinical populations of adults. As such, findings from these studies may not generalize well to other age groups such as adolescents. The conceptualization of SRH is likely established during the early and late adolescent school years (Fosse & Haas, 2009; Wade & Vingilis, 1999). Therefore, one might expect that environmental variation, common during this period of growth and maturation, could influence how adolescents perceive their overall health status. Unfortunately, empirical data regarding the determinants of SRH with this age group are rare, with the vast majority of the existing adolescent literature devoted to predictors of SRH among international youth.

In addition to the paucity of relevant data, another important area of concern in adolescent health research on this topic is the underrepresentation of individuals from ethnically and culturally diverse backgrounds. Given the potential importance of SRH as a predictor of future morbidity and mortality, as an indicator for improving health outcomes, and as a measure of overall population health, sufficient information on factors that influence SRH across ethnicity, gender and age groups is needed.

The purpose of the current investigation was to evaluate several selected anthropometric, psychological, lifestyle behavioral, and structural variables of SRH with a sample of urban-dwelling self-identified female African American adolescents. It was hypothesized that high BMI, low global self-esteem competence, lower frequencies of physical activity, and less frequent participation in activities that promote spiritual well-being would demonstrate significant predictive capacities for poor SRH.

Method

Participants and Procedure

Cross-sectional sub-analyses were performed using data obtained as part of a larger descriptive study of weight status and health promoting behaviors among female African American adolescents from the New Orleans, Louisiana metropolitan statistical area (MSA). Using a combination of probability/non-probability sampling strategy a convenience sample of $N = 310$ healthy self-identified African American females between 14 and 18 years of age were recruited to participate in the study. Data collection occurred from June, 2005 through June, 2006. Using a government supported municipal list-serve of secondary institutions, pre- Hurricane Katrina sampling included the random selection of public high schools located within the two largest MSA parishes (Orleans and Jefferson). Prospective participants were recruited from these schools using traditional advertising techniques (e.g., flyers). Post Hurricane Katrina, the remaining sample were non-randomly recruited using shelter and school enrollment directories for three parishes (East-West Baton Rouge and Rapides). Due to their proximity to New Orleans, these parishes housed significant numbers of relocated MSA residents. Approximately 90% of the sample was enrolled and data collected prior to Hurricane Katrina. Inclusion and exclusion criteria are reported in detail elsewhere (Powell-Young, 2012). Briefly, teens were included if they could read and speak English, were enrolled in public high school, between the ages of 14 through 18 years, and self-identified as African American. Exclusion criteria included reported conditions or medication use with the potential to affect body weight or physical activity level. This included pregnancy within the past 6 months and/or current breastfeeding. On the day of testing, a standardized introduction to the study was presented. Demographic and study questionnaires were administered by trained research assistants. Subsequently, weight and height were measured with minimum clothing in stocking feet. All data collection activities

were conducted in areas suitable for testing and measurement. Participants were compensated for their time according to approved procedures.

Human Subjects Protection

Before protocol implementation, written approvals to conduct the study and recruit volunteers were obtained from the relevant university institutional review board (IRB) and appropriate school administrators. Written informed consent was obtained from participants ≥ 18 years of age and from a parent or guardian of those < 18 years old. Written assent was also obtained from minor participants prior to study inclusion. Participants were compensated for their participation according to the IRB protocol.

Description of Variables and Measures

SRH—The main outcome variable for this study was SRH status captured using a single-item measure based on the CDC Behavioral Risk Factor Surveillance System (BRFSS) scale. The question asked, "How would you rate your current overall health status?" The possible response options were: *excellent, good, and poor.* Data have demonstrated support for the utility and reliability of single-item measures to characterize current perception of SRH among multi-ethnic groups of adolescents (Boardman, 2006; Haddock et al., 2006).

BMI—Anthropometric measures (height and weight) were assessed following standardized procedures. Height was measured to the nearest one-half inch using a portable stadiometer (Seca, Hanover, MD). Weight was measured to the nearest one-half pound using a professional dial floor scale (Health-O-Meter, Bedford Heights, OH). After appropriate conversions, BMI was calculated (BMI = weight [kg]/height [m^2]). Using recommended nomenclature (Krebs et al., 2007) and 2000 CDC growth chart reference standards and percentiles (CDC, 2009), subjects were categorized as non-overweight (N-OW), ≥ 5^{th} percentile but < 85^{th} percentile or overweight (OW), ≥ 85^{th} percentile.

Global self esteem—Harter's Self-Perception Profile for Adolescents (SPPA, Harter, 1988) was used to evaluate the domain of global self-esteem with five items. The SPPA is among the most widely used self-report multi-domain measures of self-concept among youth in research settings. Items are answered on *a 4-point Likert-type response scale ranging from strongly agree to strongly disagree*. Domain scoring is based on derived means with values correlating from low to high with the amount of perceived self-esteem competence. Based on referenced norms of the original sample, and with each question scored on a 1–4 continuum, scores that fall between the subscale midpoint (i.e., 2.5) ± the sample standard deviation (i.e., 0.48) denote an average level of global self-esteem. Scores of 1 through 1.9 indicate *below average* esteem, 2 through 2.9 suggest *average* global esteem, and 3 through 4 reflect *above average* self-esteem. Normative data on the reliability and validity of the SPPA with non-clinical samples is available in the users' manual (Harter, 1988). Cronbach's alpha (α) reliability estimates reported for the global self-esteem domain from several diverse non-clinical samples range from .68 to .85 (Powell-Young & Spruill, In Press; Rose, Hands, & Larkin, 2011; Rudasill & Callahan, 2008). The α estimate for this sample was .67. Michaels, Barr, Roosa, and Knight (2007) suggested that measures of global self-esteem are not strong in reliability for African American adolescents. This phenomenon has been partially attributed to the Eurocentric model often guiding the development and construction of self-esteem measures. Notwithstanding the former issue, comparative evaluations of internal consistency results with African American adolescents have been essentially equal across studies and ranged from .68 through .72 for the global self-esteem subscale (Thomson & Zand, 2002). Moreover, the data indicated measurement equivalence for this concept across ethnically diverse groups.

Physical activity—The variable was measured with the Adolescent Lifestyle Profile-R2 (ALP-R2; Hendricks, Pender, Murdaugh, Tavakoli, & Hendricks, 2001). The ALP-R2 is a 44-item multidimensional instrument designed to provide participation frequency estimates for seven health promoting behaviors. The subscale, Physical Activity, has 6 items. Response options are numeric values *(1 = never, 2 = sometimes, 3 = often, 4 = always).* Interpretation of the physical activity score is based on the calculated average of subscale items. For example, the greater the score, the higher the respondents' level of physical activity and vice versa. The ALP-R2 subscales have been validated with normative samples that included healthy African American adolescents (Hendricks et al., 2001; Hendricks, Murdaugh, & Pender, 2006). Reliability estimates with the validation cohorts was .77 for physical activity. The α coefficient for this sample was .73. There are no discrete cut-off points to differentiate active from sedentary participants with this measure. Estimations of percentiles (P) were calculated to categorize activity levels for this sample as follows: sedentary (≤ 10^{th} P; score: ≤ 1.8); moderately active (> 10^{th} P but < 90^{th} P, score: 1.9–3.4), and active (≥ 90^{th} P, score: 3.5–4.0).

Spiritual health—The ALP-R2 (Hendricks et al., 2001) Spiritual Health 6-item subscale was used for this measure. The subscale was developed to measure how often adolescents participated in activities hypothesized to promote spirituality. The subscale was comprised of items that related to the intrinsic and extrinsic domains of spirituality. Scoring and interpretation were based on the same metric as the Physical Activity subscale. Frequency estimations for participation in spiritual health promoting behaviors were defined by the 10^{th} and 90^{th} percentile as: infrequent (≤ 10^{th} P; score: ≤ 2.0); moderately frequent (> 10^{th} P but < 90^{th} P, score: 2.0–3.6) and frequent participation (≥ 90^{th} P, score: 3.7–4.0). Validation studies of the ALP-R2 and its subscales have included African American youth from 11 through 22 years of age (Hendricks et al., 2001, 2006). The average reliability estimate for the norm cohorts was .82. The α estimate for this study cohort was .74.

Household income—Enrollment in the national school lunch program served as a proxy measurement for household income and thus socioeconomic level (SEL). Eligibility for participation in the program is determined by a family income below 130% of the poverty guidelines issued by The U.S. Department of Health and Human Services (Lindsey, 2009). These guidelines are based on the poverty thresholds determined annually by the U.S. Census Bureau, which are rounded and adjusted for family size. SEL was categorized as either low (L-SEL, ≤ 130% poverty) or not low (NL-SEL). Eligibility data from the national school lunch program are widely used indicators of socioeconomic status.

Statistical Analysis

Data analyses were performed using the Statistical Package for the Social Sciences (SPSS). Prior to analyses, all variables were assessed for accuracy, completion, and credible values. Frequencies, central tendency measures, and measures of variability were used to generate descriptive summarization of the study variables. Chi square (X^2) analyses were conducted to determine the associations between SRH status and each of the predictor variables. Fisher's exact test was used when expected frequencies were below 1 in any cell or < 5 in more than 20% of the cells. Power calculation (Faul, Erdfelder, Buchner, & Lang, 2009; Faul, Erdfelder, Lang, & Buchner, 2007) determined that 220 participants were needed to achieve power of .95 with a medium effect size (w=.30). Variables were further analyzed using ordinal logistic regression analyses to identify predictors of poor SRH. Models for each predictor were run separately with each effect adjusted for age. All main effects and interactions to be estimated had at least 20 cases in the sample data to produce stable estimates. Adjusted odds ratio (OR) and 95% confidence interval (95% CI) were estimated. Significance was set at an alpha level of .05 for tests, and by upper and lower 95% CI not

containing the value of 1.0 for odds ratios. Referent groups for calculating OR were: N-OW, average self-esteem competence, active physical activity level, frequent participation in spiritual health activities, and NL-SEL.

Results

Sample Characteristics

A significant proportion (78%) of the participants resided in L-SEL homes. Data from this sample describe urban youth from low socioeconomic households with a M_{age} of 15.8 ± 1.2 years and M_{BMI} of 25.5 ± 4.9 kg/m^2. Overweight prevalence for this group was slightly higher than the national average for non-Hispanic Black females (Flegal et al., 2010; Ogden et al., 2010). Most considered themselves to be in either excellent or good health. More than three-quarters of the sample participants reported above average levels of self-esteem competence, M_{score} = 3.5, which is not unusual finding among African American females (Robins, Trzesniewski, Tracy, Gosling, & Potter, 2002; Twenge & Crocker, 2002). Interestingly, none of the participants in this study reported scores that were consistent with below average levels of competence. Contrary to the general consensus regarding low frequencies of physical activity among ancestrally diverse populations in urban America, only a small proportion of the sample was inactive. Not unexpectedly, a significant fraction of the study participants were frequently involved in activities that promote spiritual well-being. Major study variables for this sample are characterized in Table 1.

Determinants of subjective health

No significant correlations were found between SRH and BMI (p = .23), global self-esteem (p = .17), or physical activity (p = .10). In contrast, however, frequency of participation in spiritual health activities and SEL demonstrated significant associations with SRH among this cohort. Results from logistic regression models expand the association findings. The adjusted odds of self-reporting poor health were 2.5 times as large (95% CI: 1.17, 5.31) among individuals who infrequently participated in spiritual health activities and 2.9 times as large (95% CI: 1.63, 5.33) for those who moderately engaged in spiritual activities as compared to those who frequently participate in spiritual activities. These data also suggest that the odds of adolescent African American females from L-SEL households reporting poor health were almost twice as large (OR: 1.8; 95% CI: 1.03, 3.14) as the odds of a teen residing in a NL-SEL household reporting poorer health (Figure 1).

As a result of the collection and inclusion of post-Katrina data into the current statistical profile, additional analyses were performed in order to refine and augment the results. The findings indicate that associations between SRH and the predictor variables for the current sample with (n = 310) and without (n = 284) post-Katrina data were not significantly different (Table 2). Moreover, the logistic regression was rerun excluding the post-Katrina participants with no substantial changes in the model.

Discussion

I found that the odds of reporting poor health did not differ significantly by BMI, global self-esteem, or physical activity level among female African American teens. The major predictors of poor subjective health were household income and spiritual well-being. My data indicate that the odds of reporting poor health increased substantially among individuals from L-SEL homes and for those who participated less frequently in lifestyle activities that contribute positively to spiritual well-being.

Most researchers suggest that higher BMI functions as a significant determinant for poor subjective health among adolescents (Galan et al., 2010; Tremblay, Dahinten, & Kohen,

2003; Vingilis et al., 2002). Yet, the results generated with my sample differ from previously published findings. One explanation for the differing observations may be the effect of culture on the identification and internalization of what constitutes a viable health threat for this segment of the population. Consequently, factors demonstrating predictive power for poor health among non-African populations, from which the vast majority of prior research findings are generated, may not be applicable with African Americans. For example, African American males and females, regardless of age, tend to hold a less negative attitude toward a more abundant female body size (Freedman, Carter, Sbrocco, & Gray, 2004; Gluck & Geliebter, 2002; Thomas, Moseley, Stallings, Nichols-English, & Wagner, 2008). In fact, African American adolescents as young as 10.5 years of age have demonstrated preferences for a larger ideal female figure (Cohn et al., 1987; Jones, Fries, & Danish, 2007). At the community level, this dynamic of acceptance and partiality may lessen the negative health implications associated with high BMI. The result, as shown in my group, is that overweight does not manifest as an independent, viable health risk.

Research results regarding the relationship between physical activity frequency and poor SRH have been inconsistent (Biddle & Asare, 2011; Galan et al., 2010; Tremblay et al., 2003). Although some researchers have found significant associations between physical activity regularity and SRH status, results from other researchers suggested no physical activity frequency effect on SRH. My research has shown that although physical activity was not a significant predictor of poor health, less frequent participation in leisure time physical activity slightly increased the odds of reporting a less than optimal health status. Although a heightened sense of global self-esteem is generally thought to be important to sense of well-being, this is often thought to be more relevant to mental health (Rosenberg, Schooler, Schoenbach, & Rosenberg, 1995). There is very little information regarding the predictive capacity of global self-esteem on general well-being. My study provides novel evidence on the effect of global self-esteem on perceived health status for urban-dwelling African American youth.

Socioeconomic inequality had an obvious and measureable effect on perceived health status among individuals in this sample. I compared my data with recent meta-analyses and found similar results. Kondo and colleagues (2009) reported that the odds of poor SRH were significantly larger (OR = 1.04) for adolescents from less affluent backgrounds. Richter and others (2009) also reported an increased risk (OR = 1.80) for poor SRH among adolescent females from low socioeconomic households. My data provide support for the theory of poverty and lower-class susceptibility for compromised health and health outcomes previously described by others (Ram, 2005).

Historically, spirituality in African American culture has been an essential aspect of holistic health. However, empirical literature that focuses on adolescent spirituality is sparse. Even less abundant is information on the influence of spiritual well-being on adolescent perceived health. Nevertheless, there is some evidence, generated from mostly adult populations, supporting the protective influences of engaging in activities that promote spirituality on health, health practices and health outcomes among this segment of the population (Chester, Himburg, & Weatherspoon, 2006; Figueroa, Davis, Baker, & Bunch, 2006; Underwood & Powell, 2006). From my data, it appears that spiritual well-being is the most salient attributable risk factor for poor subjective health. These findings imply that evaluation of and consideration for spiritual health may provide the greatest benefit when informing prevention and intervention strategies to improve health.

Limitations

This was a non-random, homogeneous sample with respect to ancestry, geography and socioeconomic status. Therefore, generalizability beyond this sample is unknown. Due to the cross-sectional nature of the data, causality and age effect of the relationship found between SEL and spiritual health with poor SRH cannot be definitively established. Misreporting bias may diminish the reliability of enrollment in the national school lunch program as a parent-proxy index for household SEL. However, because of the concentrated poverty level in New Orleans among African Americans, I do not believe that use of this measure would compromise the results generated with this study cohort. With respect to internal validity and Hurricane Katrina data, it would not be unexpected to intuit a negative impact on mental health and/or health status. However, because (a) the greater part of the data (90%) was collected prior to the disaster; (b) the income level for this target population did not noticeably change post-Katrina; (c) the greater proportion of the pre- and post-Katrina data indicate satisfactory levels of global self-esteem and well-being; and (d) no significant difference in the results when data are separated and compared, the impact of the disaster on the outcomes of this study's results are negligible.

These limitations notwithstanding, results from this study contribute to advancing the body of subjective health research with vulnerable populations. At present, knowledge about the effects of demographic and psychosocial variables among African American adolescents is limited. Information is especially sparse for urban-dwelling adolescent African American females residing in low income households. Future researchers should aim to recruit larger, more representative samples of African Americans of both genders. Further studies are needed to investigate possible reasons for the variability in findings among African Americans adolescents.

Conclusions

To my knowledge, this is one of the first studies to evaluate the predictive capacity of several diverse determinants among a subsample of the population that is disparately affected by the health burdens. Although more research is needed, results from this study have important implications for health care. Overall, the novel findings provide clearly needed insight regarding population-specific referent and attributable risk empirics for African American youth. In addition, understanding the social and cultural context of health and illness can inform the development and implementation of prevention and intervention strategies that address health disparities.

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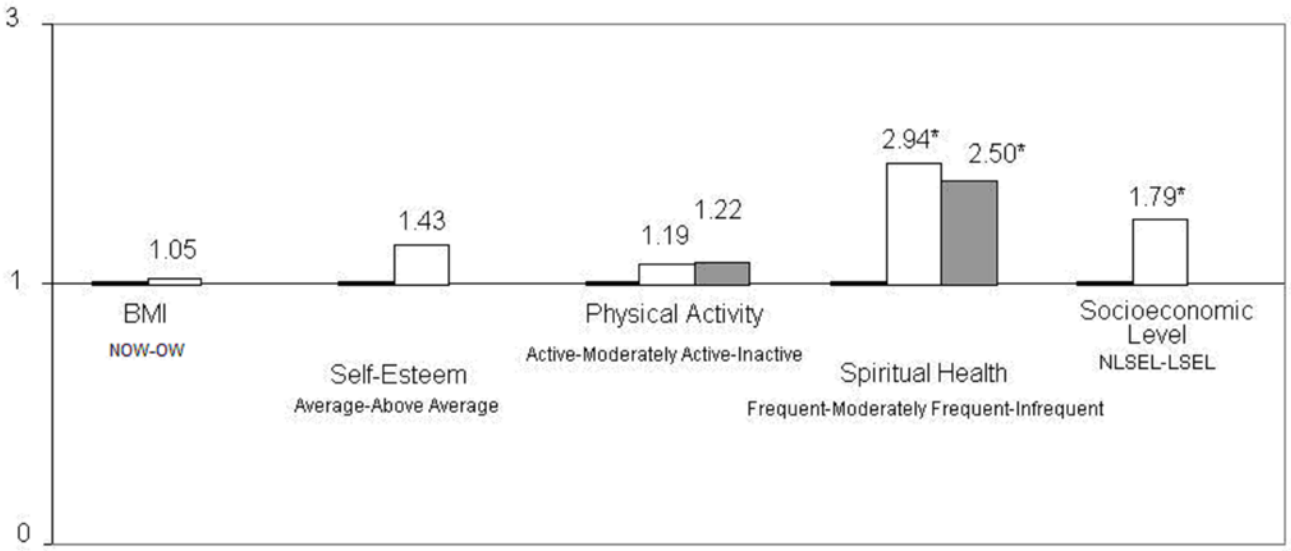

Figure 1.
Odds ratio of reporting poor health by predictor variables among female African American adolescents. Referents are healthy weight (HW), average self-esteem, active physical activity estimate, frequent spiritual behaviors, and NLSEL. (*) 95% confidence intervals do not include 1.

Table 1

Sample demographics ($N = 310$)

Characteristic	Frequency (%)
Socioeconomic Level (SEL)	
Not low SEL	68 (22)
Low SEL	242 (78)
Body Mass Index	
Non-Overweight	200 (65)
Overweight	110 (36)
Self-Esteem Competence	
Average	46 (15)
Above Average	264 (85)
Physical Activity Level	
Sedentary	54 (17)
Moderately Active	153 (49)
Active	103 (33)
Participation in Activities that Promote Spiritual Well-Being	
Infrequent	57 (18)
Moderately Frequent	190 (61)
Frequent	63 (20)
Sample demographics (N = 310)	
Self-Rated Health Status	
Poor	20 (6)
Good	211 (68)
Excellent	79 (26)

Note: As a result of rounding percentages may not total 100.

Table 2

Summary of chi square results comparing pre- and post-Katrina data sets

Variable	n	X^2	*P*
Body mass index	310	2.9	.23
	284	1.8	.39
Global self-esteem	310	3.6	.17
	284	3.5	.17
Physical activity	310	7.7	.10
	284	8.5	.07
Spiritual health	310	18.7	<.01
	284	18.5	<.01
Socioeconomic level	310	51.7	<.01
	284	56.9	<.01

Note: Pre-Katrina data set ($N = 284$) consists of data collected from participants prior to Hurricane Katrina. Post-Katrina data set ($N = 310$) consists of data collected from all study participants, both pre- and post-Hurricane Katrina.