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Indicators of subjective social status: Differential associations across race and sex

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ABSTRACT

Background: Subjective social status (SSS), or perception of rank on the social hierarchy, is an important indicator of various health outcomes. However, the psychosocial influences on this construct are unclear, and how these influences vary across different sociodemographic groups is poorly understood.

Methods: Participants were 2077 African-American and Whites (M age=47.85; 57% female; 58% African American, and 58% above poverty) from the Healthy Aging in Neighborhoods of Diversity across the Life Span (HANDLS) study. Multiple regression analyses examined (1) hypothesized psychosocial indicators of SSS and (2) the moderating effect of race and sex on the variables associated with SSS.

Results: In addition to the traditional measures of SES (i.e. income, employment, and education), psychosocial variables (i.e. depressive symptomatology, neighborhood satisfaction, and self-rated health) were significantly associated with SSS. However, some of these indicators varied with respect to race and sex. Three significant interactions were found: sex by employment, race by employment, and race by education, wherein objective measures of SES were more associated with SSS for Whites and men compared to African Americans and women.

Conclusion: Psychosocial measures may influence individuals' perceptions of themselves on the social hierarchy. Additionally, SSS may vary by demographic group. When considering the impact of SSS on health, it is important to consider the unique interpretations that various demographic groups have when perceiving themselves on the social hierarchy.

1. Introduction

Subjective social status (SSS) is an “individual's perception of his own position in the social hierarchy” (Jackman & Jackman, 1973). This construct has been used frequently as a predictor for several aspects of health (Singh-Manoux, Marmot & Adler, 2005; Singh-Manoux, Adler & Marmot, 2003), including physical health (Allen et al., 2014; Goodman et al., 2003; Cohen et al., 2008), mental health (Singh-Manoux et al., 2003; Diaz, Guendelman & Kuppermann, 2014; Franzini & Fernandez-Esquer, 2006; Leu et al., 2008), and mortality (Kopp et al., 2004). Perceived social standing predicts health after accounting for traditional indicators of socioeconomic status (SES), such as education, income, and occupation (Singh-Manoux et al., 2005; Singh-Manoux et al., 2003; Goodman et al., 2003; Macleod et al., 2005). This suggests that objective and subjective measures of SES are not interchangeable. Additionally, these findings imply that psychological and non-SES environmental factors may influence SSS, and that those factors may represent a greater health risk than objective

measures of status. Indeed, Wilkinsen (Wilkinson, 1999) posited that individuals' beliefs about their social positions combined with associated emotions resulting from their beliefs are more closely related to physical health outcomes than their absolute economic resources. Interestingly, in addition to its association with objective measures of SES (Singh-Manoux et al., 2003), SSS has been found to be associated with psychological variables, such as self-rated health (Goodman et al., 2007; Hu et al., 2005), negative affect (Adler et al., 2000), and neighborhood satisfaction (Chen and Paterson, 2006).

Indicators of SSS differ across sociodemographic groups (Jackman & Jackman, 1973; Demakakos et al., 2008), notably race and sex. For instance, an early study of SSS found a linear relationship between SSS and several objective measures of SES (i.e. education, income, and occupation) in Whites, but not in African Americans. For African Americans, only income was associated with SSS (Jackman & Jackman, 1973). Similarly, using the MacArthur Scale of Subjective Social Status, a recent community-based study found that objective measures of SES were stronger indicators of SSS for Whites than for

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African Americans (Adler et al., 2008). Another study of a diverse sample of pregnant women found that objective SES was significantly associated with SSS in Whites, Latinas, and Chinese American, but not African American women. Although self-rated health was an important indicator of SSS in all groups, self-rated health did not predict SSS in African American women after accounting for objective SES (Ostrove et al., 2000). Finally, another study found that income was an important indicator of SSS for Whites and Hispanics, but not for African Americans (Wolff et al., 2010). Interestingly, this study also found that African Americans rated themselves significantly higher than Whites on SSS. Thus, whether a given variable is associated with SSS may depend on one's race or ethnicity. Furthermore, objective measures of SES may be associated with SSS in Whites more than in African Americans.

Interpretations of SSS may also vary in women and men. For instance, while previous research suggests that SSS is a significant predictor of physical health outcomes for both sexes (Singh-Manoux et al., 2005), the variables that predict SSS itself may be distinct for men and women. One study found stronger correlations between SSS and indicators of objective social status for men than for women. Among proxies of objective social standing, the strongest association with SSS was wealth in men, but not women (Demakakos et al., 2008). Nonetheless, at least one study found a stronger association between SSS and income for women than for men (Veenstra & Kelly, 2007). These researchers also found that educational attainment was more strongly associated with SSS for men than women. Consistent with these findings, a meta-analysis examining associations between subjective well-being, SES, and social networks found that SES indicators, particularly income and education, were associated more strongly with life satisfaction and happiness in men than in women, but that social integration was more closely tied to life satisfaction for women than for men (Pinquart & Sorensen, 2000). These results are informative partially because psychological well-being is closely tied to SSS (Singh-Manoux, Clarke & Marmot, 2002). These results suggest that although objective SES may be indicative of SSS in men, social and psychological factors may be pertinent for perceived social standing for women. In fact, in an all-White sample of women, Adler (2000) found strong associations between SSS, negative affect, and various stress indices (Adler et al., 2000). Based on these data, it is apparent that there are both racial and sex differences in the association between objective SES measures and SSS beliefs. However, whether demographic variables moderate the association between various psychosocial variables and perceptions of status is less clear.

Our study had two aims. First, we assessed the strength of associations of several demographic, socioeconomic, and psychological variables on SSS, including race, sex, education, employment, income, depressive symptomatology, neighborhood satisfaction, and self-rated health. Considering all of these variables have been independently shown to relate to SSS (Singh-Manoux et al., 2005, 2003; Adler et al., 2000; Ostrove et al., 2000; Reitzel et al., 2013), we hypothesized that both the objective measures and the psychosocial variables would be associated with SSS. Then, in a single model we examined how certain determinants vary with respect to race and sex in an ethnically diverse sample of community-dwelling adults. We hypothesized that objective measures of SES would be more closely related to SSS for Whites and men compared to other demographic groups. Due to the limited literature examining the relations of the psychosocial variables to SSS across groups, no hypotheses were put forth regarding differential relations of these variables. To our knowledge, this is the first study employing a single model to examine whether race and sex moderate the associations between SSS and the aforementioned SES and psychosocial variables. Thus, because of the importance of SSS in determining health outcomes (Singh-Manoux et al., 2005, 2003; Goodman et al., 2003; Macleod et al., 2005), as well as the preliminary evidence indicating that SSS may be defined inconsistently across groups (Jackman & Jackman, 1973; Demakakos et al., 2008), a

systematic investigation of how SSS is perceived across racial and sex groups is imperative.

2. Method

2.1. Participants

Participants were a fixed cohort of 3720 men and women recruited into the Healthy Aging in Neighborhoods of Diversity across the Lifespan (HANDLS) study between 2004 and 2008. HANDLS is an ongoing epidemiological study examining health disparities in an area probability sample from thirteen pre-determined neighborhoods in Baltimore City, Maryland. HANDLS participants were recruited based on self-identified race (White or African American), household income (125% above or below the federal poverty level), biological sex, and age (initially 30–64 years old).

Exclusion criteria for the HANDLS study included: 1) a current pregnancy, 2) within six months of receiving chemotherapy, radiation, or biological treatments for cancer, 3) a previous diagnosis of Acquired Immune Deficiency Syndrome (AIDS), 4) inability to provide informed consent, 5) inability to complete at least five of the nine tests on the Mobile Medical Research Vehicle (MRV), 6) failure to provide a verifiable address or government issued identification.

The examination data in HANDLS used in this study were collected at wave 1, the first time point of this longitudinal study. The sample for the current study included the 2077 (56%) participants (M age=47.85; $SD=9.22$) who had complete data for the MacArthur Scale of Subjective Social Status as well as the independent variables at wave 1 enumerated below. By chi-square analyses, participants in the present study did not differ from those excluded due to missing data on demographic measures race, sex, age, and poverty status. Within the sample for the current study, 57% identified as female, 58% identified as African American, and 58% reported household incomes at least 125% above the federal poverty line (Table 1).

2.2. Procedure

Participants provided demographic data in a household interview during the recruitment phase of the HANDLS study. The HANDLS protocol was approved by the Institutional Review Board of the National Institute on Environmental Health Sciences, National Institutes of Health. All participants provided written informed consent before participating in the study and they were remunerated when they completed the protocol. Following the initial household interview, participants scheduled an all-day visit to MRVs parked in their neighborhood. During their appointment at the MRVs, participants completed a variety of medical and psychological testing, as well as completing several questionnaires on psychosocial constructs, including the MacArthur Scale of Subjective Social Status. To maintain consistency with prior studies, the present analyses used select measures that have been previously examined in relation to SSS: race (Jackman & Jackman, 1973); sex (Demakakos et al., 2008); education, income, occupational status (Singh-Manoux et al., 2003); depressive symptoms (Adler et al., 2000); perceived neighborhood disorder (Chen & Paterson, 2006); and self-rated health (Goodman et al., 2007; Hu et al., 2005). Participants received monetary compensation, as well as a comprehensive physical exam and clinical reports following their participation. A previous publication provides detailed information regarding procedure for the HANDLS study (Evans et al., 2010).

2.3. Measures

2.3.1. Outcome variable – MacArthur Scale of subjective social status

Subjective Social Status was measured using the MacArthur Scale of Subjective Social Status. Participants were shown a ladder and were told: "Think of this ladder as showing where people stand in the

Table 1
Demographic and study characteristics in the overall sample and across race and sex.

Variable	Overall (N=2077)	White (N=878)	AA (N=1199)	p^1	Male (N=894)	Female (N=1183)	p^2
Age (years), M (SD)	47.85 (9.23)	47.77 (9.34)	47.90 (9.15)	.30	47.98 (9.14)	47.75 (9.30)	.33
Education (years), M (SD)	12.59 (3.00)	12.87 (5.34)	12.39 (2.52)	< .001	12.62 (3.07)	12.58 (2.94)	.10
Not Employed, %	42.00	38.70	44.50	.01	37.40	45.60	< .001
Neighborhood Satisfaction [*] , M (SD)	3.26 (1.07)	3.25 (1.14)	3.26 (1.01)	.77	3.20 (1.05)	3.30 (1.08)	.04
Low Income, %	52.80	44.20	50.50	.02	57.30	49.40	< .001
Depression ^{**} , M (SD)	14.70 (11.34)	14.96 (11.70)	14.51 (11.07)	.08	13.78 (10.40)	15.40 (11.96)	< .001
Self-rated health ^{***} , M (SD)	2.09 (0.76)	2.11 (0.77)	2.08 (0.75)	.31	2.13 (0.75)	2.07 (0.77)	.06
MacArthur Ladder ^{****} , M (SD)	4.37 (2.00)	4.24 (1.92)	4.46 (2.05)	.01	4.44 (2.00)	4.31 (2.00)	.16

AA=African Americans; p^1 -value for the difference between African Americans and Whites; p^2 -value for the difference between females and males; independent samples *t*-tests were used for continuous variables (all equal variances assumed) and one-way ANOVAs were used for categorical variables.

^{*} Based off a Likert scale, with 1 being the most and 5 being the least satisfied.

^{**} Based off the CES-D scale, wherein the higher the score the higher the depressive symptoms.

^{***} Based off a Likert scale, with 1 being the least and 3 being the most healthy.

^{****} Based off a 10-step scale, with 1 being the lowest and 10 being the highest on the ladder.

United States. At the top of the ladder are the people who are best off – those who have the most money, the best education, and the most respected jobs. At the bottom are the people who are worst off – those who have the least money, the least education, and the least respected job or no job. The higher up you are on this ladder, the closer you are to the people at the top; the lower you are, the closer you are to the people at the bottom. Where would you place yourself on this ladder? Place an “X” on the rung where you think you stand at this time of your life relative to other people in the United States.” The measure is based off a 10-step scale, whereby higher scores indicate greater perception of status. This scale is used widely in the literature as a measure of SSS (Adler et al., 2000). Recently, Cundiff and her colleagues published on the psychometric properties of this scale (Cundiff et al., 2013). They determined strong construct validity for this measure, and demonstrated that psychosocial risk and resilience factors mediated the association between the MacArthur Scale and health.

2.3.2. Independent variables

2.3.2.1. Sociodemographic indices. Sociodemographic measures included biological sex (0=women; 1=men), self-identified race (0=African American; 1=White), and years of education.

2.3.2.2. Neighborhood satisfaction, self-rated health, income, and employment. Several independent variables were taken from a household survey comprised of well-validated measures (Evans et al., 2010; Sampson & Raudenbush, 1999; Ware, Kosinski & Keller, 1996) designed to gather background and demographic information, occupational history, neighborhood characteristics, and a wide range of other physiological and psychological information. Taken from this survey was a self-report measure of neighborhood satisfaction (Sampson & Raudenbush, 1999). Subjects were asked to rate their neighborhood as “excellent,” “very good,” “good,” “fair,” or “poor,” translated into a 5-point scale with 1 being the most satisfied and 5 being the least satisfied. The study’s self-report health measure was taken from the SF-12, a commonly utilized, brief assessment of health status (Ware et al., 1996). Subjects were asked to rate their health as “excellent,” “very good,” “good,” “fair,” or “poor.” Due to a non-normalized distribution of responses, items were combined to produce a 3-category variable (i.e. “excellent” and “very good” were collapsed into one, “fair” and “poor” were collapsed into one, and “good” remained on its own); this translated into a 3-point scale with 1 being the least healthy and 3 being the most healthy. Income was measured as a dichotomous variable, with participants reporting if their total combined family income during the past 12 months was above or below \$20,000 (0=high income; 1=low income). Finally,

employment was also measured dichotomously with subjects responding “yes” or “no” if they were employed in the last month (0=unemployed; 1=employed).

2.3.2.3. Depressive symptoms. Depressive symptoms were measured using the 20-item Center for Epidemiological Study – Depression scale (CES-D; (Radloff, 1977)). The CES-D measures the frequency of depressive symptomatology in the last week using four factors: depressive affect, interpersonal problems, somatic complaints, and positive affect. The measure is scored on a 4-point Likert scale ranging from “0” (“rarely or none of the time (less than one day)”) to “3” (“most or all of the time (5–7 days)”). Scores range from 0 to 60, wherein higher scores indicate more depressive symptoms.

2.4. Analyses

Preliminary one-way ANOVAs, independent sample *t*-tests, bivariate, and semi-partial correlations were used to examine racial and sex differences in demographics as well as the associations among study variables. Linear regression analyses were used to examine associations of responses on the MacArthur Scale of Subjective Social Status using the “lm” function in the “stats” package (Pinheiro et al., 2013) in R. Model 1 tested whether race, sex, education, employment, income, neighborhood satisfaction, depressive symptoms, and self-rated health were associated with responses on the MacArthur Scale of Subjective Social Status. Model 2 tested whether these measures varied across race and sex. Backwards elimination was performed for non-significant main effects and interactions in each regression analysis. Significant interactions were probed by examining conditional effects on SPSS 22.0, using PROCESS, model 1 (moderation; (Hayes, 2013)).

3. Results

There were significant demographic differences by race and sex (Table 1). For race, Whites had a significantly higher level of education ($F(1, 2075)=12.90, p<.001$), higher income ($F(1, 2075)=5.65, p=.02$), and were more likely employed than their African American counterparts ($F(1, 2075)=6.84, p=.01$). Further, African Americans rated themselves higher on the MacArthur Scale of Subjective Social Status than their White counterparts ($F(1, 2075)=6.42, p=.01$). With respect to sex, women had significantly lower income ($F(1, 2075)=12.83, p<.001$), higher depressive symptoms ($t(2075)=3.31, p<.001$), greater neighborhood satisfaction ($F(1, 2075)=4.18, p=.04$), and were less likely to be employed ($F(1, 2075)=14.10, p<.001$) than men. No differences were found in age or self-rated health. Bivariate correlations examining associations among these measures (Table 2)

Table 2
Matrix of correlation coefficients for all model variables.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) MacArthur Ladder	–								
(2) Race	–.06*	–							
(3) Sex	.03	–.01	–						
(4) Income	–.05*	–.20**	–.07**	–					
(5) Education	.22**	.08**	.01	–.36**	–				
(6) Depression	–.30**	.02	–.07**	.27**	–.23**	–			
(7) Neighborhood	–.16**	–.01	–.05*	.16**	–.22**	.16**	–		
(8) Self-rated health	.21**	.02	.04	–.22**	.23**	–.30**	–.21**	–	
(9) Employment	.17**	.06**	.08**	–.23**	.26**	–.27**	–.07**	.21**	–

Pearson's *r* was used for continuous variables and Spearman's rho was used for dichotomous variables.

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

showed small and moderate correlations between the MacArthur Scale of Subjective Social Status and race ($r = -.06, p < .05$), income ($r = -.20, p < .01$), education ($r = .22, p < .01$), employment ($r = .17, p < .01$), symptoms of depression ($r = -.30, p < .01$), neighborhood satisfaction ($r = -.16, p < .01$), and self-rated health ($r = .21, p < .01$). The findings demonstrated that higher perceptions of status were related to African American race, high income, higher levels of education, employment, lower depressive symptomatology, and higher perceptions of health.

3.1. Regression model 1

Regression diagnostics indicated an adequate fit to the data (Bates et al., 2015). In regression analyses of the first model (Table 3, model 1), there were significant main effects for race ($b = -.32, SE = 0.08, p < .001$), education ($b = 0.07, SE = 0.02, p < .001$), income ($b = -.031, SE = 0.10, p < .01$), neighborhood ($b = -.13, SE = 0.04, p < .001$), depression ($b = -.04, SE = < 0.01, p < .001$), and self-rated health ($b = 0.23, SE = 0.06, p < .001$). The results demonstrated that African American race, higher education, higher income, higher neighborhood satisfaction, lower depressive symptomatology and higher self-rated health were associated with greater SSS. While all variables, other than sex, uniquely contributed to the model, semi-partial correlations indicated that depressive symptomatology had the strongest relation to SSS.

Table 3
Model 1. A multiple linear regression analysis looking at the indicators of subjective social status. Model 2. Final model for multiple linear regression analyses looking at the indicators of subjective social status across race and sex.

Variable (N=2077)	Model 1					Model 2				
	F	R ²	SE	b	sr	F	R ²	SE	b	sr
MacArthur Ladder	41.65***	0.14	1.86			33.60***	0.15	1.85		
Intercept			0.35					0.41		
Race			0.09	–0.32***	–.08***			0.36	–1.51***	.00
Sex			0.08	< 0.01	.00			0.13	–0.40***	.03
Employment			0.09	0.10	–.06**			0.14	–0.36*	.03
Education			0.02	0.07***	.09***			0.02	0.03	.02
Neighborhood			0.04	–0.13**	–.07**			0.04	–0.13**	–.07**
Income			0.10	–0.31**	–.06**			0.10	–0.33**	–.06**
Depression			< 0.01	–0.04***	–.18***			< 0.01	–0.04***	–.19***
Self-rated health			0.06	0.23***	.08***			0.06	0.21***	.07**
Race*Education								0.03	0.07*	.01
Race*Employment								0.17	0.48*	.02
Sex*Employment								0.17	0.65***	–.03

sr=semi partial correlations to demonstrate the unique contribution of each variable.

* *p* < .05.
** *p* < .01.
*** *p* < .001.

3.2. Regression model 2

In regression analyses of the second model (Table 3, model 2) adjusting for race and sex differences, there were significant main effects for income ($b = -.033, SE = 0.10, p < .001$), neighborhood satisfaction ($b = -.13, SE = 0.04, p < .01$), depressive symptoms ($b = -.04, SE = 0.004, p < .001$), and self-rated health ($b = 0.21, SE = 0.06, p < .001$) in predicting SSS scores. The directionality of these findings showed that greater SSS was related to higher income, higher neighborhood satisfaction, lower depressive symptomatology, and higher self-rated health. There was also a significant race by employment interaction for SSS ($b = 0.48, SE = 0.17, p < .01$). Conditional effects revealed significant differences between unemployed African Americans and Whites ($t(2076) = -4.45, p < .001$), and between employed and unemployed Whites ($t(2076) = 3.81, p < .001$). These results demonstrate that unemployed African Americans perceived themselves higher on the MacArthur Scale of Subjective Social Status than unemployed Whites (Fig. 1). Furthermore, the findings suggest that employment status significantly influenced perceived social status for Whites but not for African Americans. For Whites, those who were unemployed placed themselves significantly lower on the MacArthur Scale of Subjective Social Status than their employed counterparts (Fig. 1).

Similarly, there was a significant race by education interaction for SSS ($b = 0.07, SE = 0.03, p = .01$). Conditional effects revealed significant differences between African Americans and Whites with lower levels of education (at education = 12.59 years, $t(2076) = -3.13, p = .002$; at education = 9.60 years $t(2076) = -4.21, p < .001$), and between Whites with

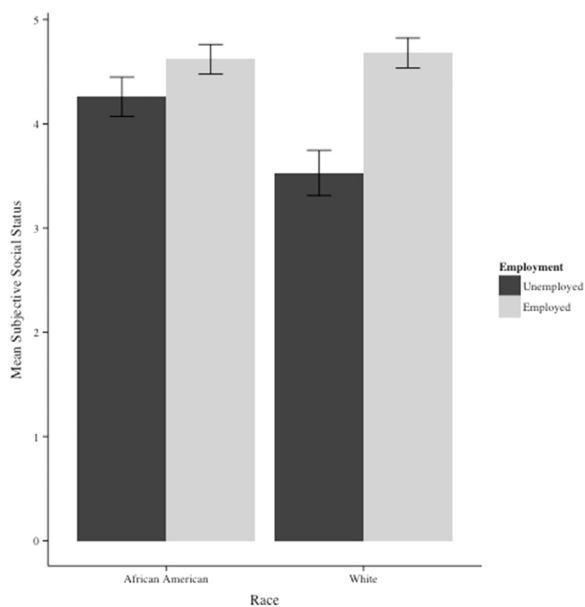


Fig. 1. The moderating effect of race on employment in relation to SSS.

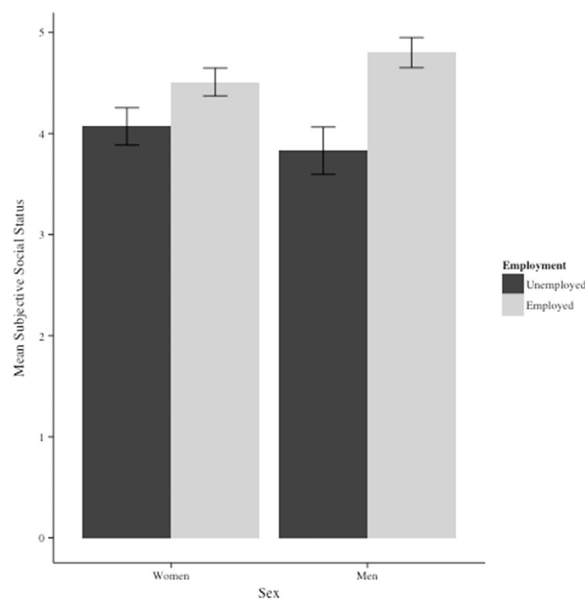


Fig. 3. The moderating effect of sex on employment in relation to SSS.

higher and lower levels of education ($t(2076)=3.81, p < .001$). These results demonstrate that African Americans with lower levels of education perceived themselves higher on the MacArthur Scale of Subjective Social Status than Whites with lower levels of education (Fig. 2). Furthermore, the findings suggest that level of education had a significant influence on perceived social status for Whites but not for African Americans. For Whites, more years of education was associated with higher perceived social standing on the MacArthur Scale of Subjective Social Status than those with fewer years of education (Fig. 2).

There was also a significant sex by employment interaction for SSS ($b=0.65, SE=0.17, p < .001$). Conditional effects revealed significant differences between unemployed and employed men ($t(2076)=3.96, p < .001$). These findings suggest that employment status had a significant influence on perceived social status for men but not for women. Specifically, men who were unemployed placed themselves significantly lower on the MacArthur Scale of Subjective Social Status than men who were employed (Fig. 3).

4. Discussion

The findings from this community-based sample of racially and socioeconomically diverse men and women suggest that subjective rankings on the MacArthur Scale of Subjective Social Status were

associated with traditional measures of SES. SSS was also associated with several psychosocial variables, including self-rated health, neighborhood satisfaction, and depressive symptomatology. Some of these associations, particularly employment and education, varied across race and sex.

The first aim of this study was to identify some of the determinants of SSS. Consistent with other studies evaluating objective measures of SES (Singh-Manoux et al., 2003), income and education were both associated with social status ratings. This relationship could be due to the nature of the measure used, as it specifically addresses wealth, employment, and education. Interestingly, SSS was not associated only with these objective measures of SES, but also with the psychosocial measures, which do not assess status.

4.1. Neighborhood Satisfaction

Our findings are consistent with previous research investigating the effect of neighborhood dissatisfaction on SSS. At least one other study has found that living in an economically disadvantaged neighborhood led to lower perceptions of SSS (Reitzel et al., 2010). The relationship between neighborhood dissatisfaction and lower SSS may be mediated in part by environmental stressors. For example, individuals residing in economically disadvantaged neighborhoods are more likely to be exposed to environmental stressors including limited material re-

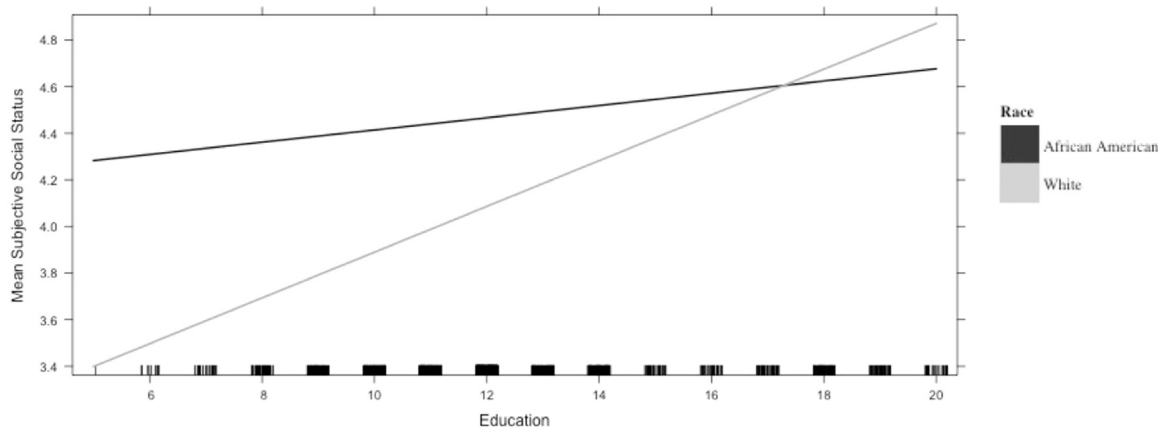


Fig. 2. The moderating effect of race on education in relation to SSS.

sources (e.g., food, clothing), violence, and discrimination (Chen & Paterson, 2006). Thus, these stressors may influence individuals' perceived social standing as a result of their negative perception of their environment. Perhaps this relationship is further perpetuated by one's inability to relocate due to lack of financial resources. These relations are only speculative; further research is required to explain why neighborhood dissatisfaction and SSS are related.

4.2. Self-rated health

We also found that negative perceptions of health and social status are related to one another. Lack of financial resources may underlie the observed association between self-rated health and SSS. If individuals with lower levels of self-rated health are unable to afford necessary medical care, they may be more likely to perceive themselves as lower on the ladder of subjective social standing. The inability to access relevant resources as a result of financial constraints may affect one's status perception. Our findings are consistent with previous studies reporting that depression was associated with self-rated health (Han, 2002) and SSS (Diaz et al., 2014). Although we adjusted for the linear effects of symptoms of depression in our analysis, it remains possible that otherwise unmeasured aspects of depression may account for some of the variance in this relationship.

4.3. Symptoms of depression

Our results revealed a negative association between depressive symptomatology and SSS. Notably, our findings revealed that depression had the strongest influence on SSS (Table 3). Literature examining symptoms of depression as an indicator of SSS is scarce. However, previous research examining depression as an outcome of SSS suggests that the two are related (Diaz et al., 2014). Furthermore, depressive symptomatology has been shown to impact other aspects of self-perception (Gara et al., 1993). One study found that depression mediated the relationship between objective SES and both neighborhood dissatisfaction and self-rated health (Wen, Hawkey & Cacioppo, 2006). Consistent with these findings, we found that SSS, self-rated health, neighborhood dissatisfaction, and depressive symptomatology were all interrelated. These findings suggest that depressive symptoms may negatively influence self-perception across multiple domains, including health, environment, and social status. Additionally, together with previous research, these findings may suggest that perceived rankings of social hierarchy are not fully captured by traditional measures of SES (Adler et al., 2000). Thus, despite their correlation, caution may be warranted when using subjective and objective measures of SES interchangeably, particularly because these measures are associated with different health outcomes (Singh-Manoux et al., 2005; Singh-Manoux et al., 2003; Goodman et al., 2003; Macleod et al., 2005).

4.4. Race as a moderator

Our results suggest that race and sex are important moderators of objective components of SES, particularly education and employment. Consistent with past research (Goodman et al., 2007), African Americans' SSS ratings exceeded their objective SES. This suggests that for African Americans, social disadvantage does not necessarily negatively influence their SSS. Furthermore, as evidenced by the significant race by education and race by employment interactions, variability in objective measures of SES does not account for the variability in SSS for African Americans relative to Whites. Literature on self-esteem and coping may explain this paradoxical finding. This research suggests that despite the fact that African Americans are frequently marginalized, they possess high levels of self-esteem (Hoelter, 1983). Two possible explanations may account for this: 1) social identity theory, which highlights in-group versus out-group

comparisons, and 2) individuals shifting their values towards factors within their immediate control, as opposed to those of which they are collectively disadvantaged.

Social identity theory refers to the inclination of individuals to formulate self-concepts relative to in-group membership. Indeed, Crocker and Major (1989) suggested that self-esteem is not lower in stigmatized groups partially because of the self-protective properties of in-group comparisons (Crocker & Major, 1989). They explain that when individuals compare themselves to members of their own group they are less likely to consider factors that disadvantage their entire group when formulating their identities. Further, because individuals are motivated to uphold positive self-concepts, African-Americans may be more likely to emphasize factors for which they are not collectively disadvantaged in their perception of social hierarchy. In fact, non-SES factors, including sleep (Goodin, McGuire & Smith, 2010), diet (Reitzel et al., 2013), and physical activity (Reitzel et al., 2013) are more predicative of SSS in this group.

4.5. Sex as a moderator

The results of the current study also indicated that men were more likely than women to perceive employment status as important when defining their position on the social hierarchy. Societal gender role expectations may influence men and women's consideration of occupational identity in their conceptualization of SSS. For example, American culture has historically supported household gender role segregation consistent with the notion that men are the primary "bread winners" (Eagly, Wood & Diekmann, 2000) and women are the primary caretakers (Moen & Roehling, 2005). Although attitudes regarding gender roles in the workforce are becoming increasingly more egalitarian (Twenge, 1997), many Americans still expect men to earn the majority of household income (Tinsley, Howell & Amanatullah, 2015). Societal pressure to internalize the role of primary wage earner may increase the value of employment in men's interpretation of SSS.

Moreover, the gender wage gap demonstrates societal devaluation of women's work in general. Currently, a woman earns 78 cents for every one-dollar that a man earns in the United States (DeNavas-Walt & Proctor, 2014). The view that men's work is more valuable may influence the level of importance that men and women place on employment in their conceptualization of SSS. Consistent with this idea, previous research suggests that men's self-esteem is negatively influenced by financial deprivation resulting from unemployment relative to women (Waters & Moore, 2002). It is important to note that there was no moderating effect of sex on income in relation to SSS, suggesting that it is the unique effect of individual employment status rather than household income that is distinct among men and women in their SSS.

One novel aspect of our study is that we examined the relations of various psychosocial variables to SSS across demographic groups. Due to the limited literature examining the differential relations of these variables, we had no a priori hypothesis regarding whether they would differ. Notably, unlike the objective measures of SES (where group differences are observed), it was found that the psychosocial variable relations are comparable across groups. One potential reason for this uniformity could be that the psychosocial variables and SSS all rely on self/environmental perception, which may be confounded with negative affectivity (Watson & Pennebaker, 1989; Stansfeld, 1992; Watson, Clark & Carey, 1988; Watson & Clark, 1984). Research may benefit from efforts to replicate these findings to determine if they generalize to other samples; if replicated, it would be of interest to elucidate the influences on these uniform relations.

4.6. Strengths and Limitations

The current study has limitations. Given the sociodemographic features of our sample, this study may under-represent individuals

from the upper and upper middle classes (Sakamoto, 1990), and therefore interpretations of social standing in particularly affluent individuals should be drawn cautiously. Additionally, because medical examinations were offered as a benefit to participation, it is possible that our study attracted individuals in greater need of these services, biasing our sample demographics. Also, although we observed a moderating effect of sex on employment status in relation to SSS, this study did not consider the impact of marital status as well as spouse's employment status. Individuals may consider the income and occupation of their spouses when rating their own SSS. Furthermore, our analyses did not examine type of occupation, which would have been beneficial in evaluating the effect of employment on SSS. Finally, it is important to acknowledge that the current dataset is cross-sectional and therefore causality cannot be determined. As such, it should not be assumed that our independent variables are necessarily predictive of SSS. Indeed, it is possible that SSS causally influences depression, neighborhood satisfaction, and self-rated health (e.g., perception of low social ranking may be a risk factor for depression). Future research should examine these relations longitudinally to determine the directionality of these effects.

The unique methodological approach of the HANDLS study has allowed researchers to answer important health questions in a large, diverse sample with ample representation of minority and disadvantaged groups. Utilizing this racially and economically diverse area probability sample of urban adults, we were able to better understand how various groups of people perceive themselves in the social hierarchy. Although SSS is more highly related to health outcomes than absolute measures of SES (Singh-Manoux et al., 2005; Macleod et al., 2005), our results demonstrate that these subjective reports of social status differ depending on the respondent's sociodemographic group. These findings highlight the importance of understanding the unique interpretation of SSS across these groups to maximize positive health outcomes.

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