Subjective social status and psychological distress in mothers of young children

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Abstract

Introduction—Perceptions of social standing have increasingly well-documented relationships with health. Higher subjective social status (SSS) is associated with better psychological well-being among women, and mothers of newborns. The relationship between SSS and psychological distress among mothers of young children, however, is largely unknown. SSS may provide insight into aspects of maternal functioning that are relevant to parenting capacity, as well as insight into future health; in addition, SSS is brief, and may be perceived as less intrusive than other measures of socioeconomic status or mental health. We evaluated the relationship between SSS and psychological distress among mothers of 5-year-old children from diverse socioeconomic backgrounds.

Methods—162 mothers of 5-year old children, who participated in a study of child self-regulation, completed surveys that assessed sociodemographics, mental health, and perceived social support. The MacArthur Scale of Subjective Social Status used pictures of 10-rung ladders to assess respondents' social position in relation to the US (SES ladder) and their community (community ladder). Quantile regression models were used to assess the relationship between maternal psychological distress (perceived social support, depressive symptoms, anxiety) and the ladders (individually and together), adjusting for maternal age, race, education, and number of children. To examine whether the SSS-health relationships differed by race, the models were also stratified by race.

Results—Community ladder ranking was positively associated with social support (β=1.34, SE=0.33, p<.001), and negatively associated with depressive symptoms (β=−1.34, SE=0.52, p<.05). SES ladder ranking was positively associated with social support (β=1.17, SE=0.52, p<.05). Findings in the full sample were driven by more robust relationships between psychological distress and community SSS among Black/African-American mothers.

Discussion—The findings suggest that perceived social standing in one's community is associated with maternal psychological well-being. Community SSS may be particularly influential for Black/African-American mothers' well-being.

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INTRODUCTION

There is a well-established graded relationship between socioeconomic status (SES) and health, such that those with relatively lower status experience worse health outcomes than their more advantaged peers (Bassuk, Berkman, & Amick, 2002; Kallan, 1997). SES is typically measured by indicators that quantify access to resources, social capital, or prestige, such as income, occupation, and education (Dow, Schoeni, Adler, & Stewart, 2010; Galobardes, Shaw, Lawlor, Lynch, & Davey Smith, 2006a). Measures of SES, however, may be limited by several factors including inaccurate reporting of income, difficulty characterizing occupations, and comparing educational attainment without regard for educational quality (Adler et al., 2008). An alternative measure of social position, the MacArthur Scale of Subjective Social Status (SSS), assesses an individual's socioeconomic and psychosocial resources compared to others (Singh-Manoux, Adler, & Marmot, 2003; Wolff, Acevedo-Garcia, Subramanian, Weber, & Kawachi, 2010). SSS is a robust predictor of adult self-rated health, mortality, functional decline, and a number of other health conditions, such that those with higher SSS experience better health outcomes (Adler, Epel, Castellazzo, & Ickovics, 2000; Chen, Covinsky, Stijacic Cenzer, Adler, & Williams, 2012; Galobardes, Shaw, Lawlor, Lynch, & Davey Smith, 2006b; Hu, Adler, Goldman, Weinstein, & Seeman, 2005; Ostrove, Adler, Kuppermann, & Washington, 2000; Singh-Manoux, Marmot, & Adler, 2005).

To report their SSS using the MacArthur Scale, individuals use an image of a ladder to rank themselves compared to others in their community (community ladder), and to others in the nation (SES ladder). The SES ladder is commonly used as a proxy for objective SES, while the community ladder is more commonly used as a measure of relative social power in one's social circles (Adler, Stewart, & Psychosocial Working Group, 2007; Ghaed & Gallo, 2007). In many, but not all (Franzini & Fernandez-Esquer, 2006) samples, SSS is a stronger determinant of health than objective SES, and it predicts future health independent of objective SES measures (Adler et al., 2000; Chen et al., 2012; Galobardes et al., 2006b; Hu et al., 2005; Ostrove et al., 2000; Singh-Manoux et al., 2005). Therefore, SSS may capture aspects of well-being that are difficult to measure, but nonetheless influence health and health behavior including: social power, hope, self-efficacy, and spirituality (Franzini & Fernandez-Esquer, 2006).

Perhaps because of its association with access to resources and social power, previous literature suggests that the impact of SSS on some health outcomes may differ by race or ethnicity. For example, lower community ladder ranking has been associated with increased cardiovascular disease risk among White adults, but not Black adults (Allen, McNeely, Waldstein, Evans, & Zonderman, 2014). Similarly, SES ladder ranking, as measured by the MacArthur Scale of SSS, is positively related to self-rated health in White/Chinese-American women but not in Black/Latina women (Ostrove et al., 2000).

SSS and Mental Health

SSS ladder rankings may also capture the psychological correlates of poverty (Dolbier et al., 2013; Franzini & Fernandez-Esquer, 2006; E. Goodman, Huang, Schafer-Kalkhoff, & Adler, 2007). Scott and colleagues observed a relationship between lower SES ladder ranking and higher prevalence of DSM-IV mood, anxiety, and impulse control disorders in 18 countries around the world (Scott et al., 2014). Higher SSS in comparison to society at large has also been related to better psychological well-being in healthy White women and low-income individuals of Mexican origin (Adler et al., 2007; Adler et al., 2000). Recently, Diaz and colleagues found that lower rankings on the community ladder, but not on the SES ladder, predicted symptoms of major depressive disorder among women with gynecological conditions, independent of objective SES measures (Diaz, Guendelman, & Kuppermann, 2014).

Maternal mental health is a key determinant of child health and development, and children whose mothers have high levels of psychological distress are at risk for a variety of physical, psychological, and behavioral problems (Scott et al., 2014). To date, however, studies examining SSS in relation to maternal mental health have been confined to pregnant women and mothers of infants. In a study of low-income mothers of infants, Dennis and colleagues found that SES ladder ranking predicted maternal depressive symptoms and perceived stress, independent of objective SES (Dennis et al., 2012). Similarly, Dolbier found that SES ladder ranking assessed during pregnancy predicted post-partum mental health. Further, SES ladder ranking was the most consistent predictor of minor-major and major depression six months postpartum, after accounting for objective SES and socio-demographic risk factors (Dolbier et al., 2013).

No studies, to our knowledge, have assessed the relationship between SSS and maternal psychological distress beyond the infant period, despite that some prospective studies have shown that maternal distress is more common in the early childhood period than in pregnancy or infancy (Woolhouse, Gartland, Mensah, & Brown, 2014). Caregiving deficits in children's first years of life, such as inadequate maternal sensitivity, are strongly associated with high levels of maternal psychological distress, the effects of which can manifest themselves throughout children's lives (Brahm et al., 2015). Maternal mental health is linked with school readiness and child behavior problems; children entering school with developmental problems are at greater risk for poor child health, poor academic achievement, and fewer future opportunities (Anhalt, Telzrow, & Brown, 2007; Kingston & Tough, 2014). Extant studies of SSS and maternal psychological distress in the pre- and perinatal periods have evaluated SES ladder rankings; the relationship between community ladder rankings and maternal health has not been explored. With close ties to psychosocial vulnerability, interpersonal relationship dynamics, and perceptions of social power within a proximal environment (Cundiff, Smith, Uchino, & Berg, 2013), community ladder rankings may provide particular insight into maternal mental health.

The current study

Using both versions of the MacArthur Scale ladders, we investigated the relationship between SSS and psychological distress in mothers of 5-year-old children; first, we

evaluated the relative contributions of mothers' SES and community ladder rankings to their mental health and perceived social support. We hypothesized that lower SES and community ladder ranking would be associated with higher levels of distress, after accounting for objective SES measures. Additionally, given previous research that suggests racial differences in the relationship between SSS and some physical health outcomes (Allen et al., 2014; Ostrove et al., 2000), we explored whether the relationship between SSS, maternal psychological distress, and perceived social support differed by race.

METHODS

Participants

This study had a total of 166 participants. Participants in the current study were mothers of 5-year old children enrolled in a study of child self-regulatory development between 2011 and 2013. Of the 166 mother-child pairs from the study of child self-regulatory development, seventy-three were recruited from a sample that had previously participated in a study of normative fetal development; these mothers were generally well-educated and from middle to upper-income families (DiPietro et al., 2010). To enrich the socioeconomic diversity of the sample, an additional ninety-three mothers were enrolled from the community via flyers in libraries, schools, and grocery stores (Riis, Granger, DiPietro, Bandeen-Roche, & Johnson, 2015). To be eligible, mothers had to be fluent in English and their children could not have significant health or developmental conditions. For the current analysis, three mothers were excluded due to incomplete appointments, and one mother was excluded because she did not complete the outcome measures, which yielded an analytic sample of 162. Mothers provided written informed consent and the Johns Hopkins Bloomberg School of Public Health Institutional Review Board approved the research protocol.

Procedures

During a 90-minute study visit, mothers completed self-administered written questionnaires that assessed maternal psychological distress and perceived social support, and provided family socio-demographic information.

Dependent Variables

Maternal Psychological Distress

Depressive symptoms: Maternal depressive symptoms in the last week were measured using the 20-item Center for Epidemiologic Studies Depression Scale (CESD-20) (Radloff, 1977). Respondents rate the frequency of feelings such as fearfulness, loneliness, and restlessness in the last week from "rarely or none of the time" to "most or all of the time". Higher scores indicate more depressive symptoms. The CESD has very good internal consistency and test-reliability (Radloff, 1977).

Anxiety: Trait anxiety was assessed using the 20-item Spielberger State-Trait Anxiety Inventory-Form Y2 (STAI) (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983). Respondents rate items such as "I worry too much over something that really doesn't matter" and "I am content; I am a steady person" on a 4-point Likert scale from "almost

never" to "almost always". Higher scores indicate more anxiety. The scale has high internal consistency and test-retest reliability (Spielberger et al., 1983).

Social Support: Perceived social support was measured using the eight item Duke-UNC Functional Social Support Questionnaire (FSSQ) (Broadhead, Gehlbach, de Gruy, & Kaplan, 1988). The FSSQ evaluates respondents' satisfaction with functional and emotional support, such as opportunities to talk about relationships, work, and financial problems, and help when ill, on a 5-point Likert scale from 1 "as much as I would like" to 5 "much less than I would like". The items are summed, with higher scores indicating less support. The FSSQ has good psychometric properties (Broadhead et al., 1988).

Independent Variables

Subjective Socioeconomic Status (SSS)—The MacArthur Scale of Subjective Social Status ladders (Adler et al., 2000) were used to assess SSS. A picture of a 10-rung ladder is prefaced by text that asks the respondent to imagine that the ladder represents where people in their community stand (community ladder). Those at the top enjoy the highest social standing in their communities; progressively lower rungs represent lower social standing. Respondents mark the rung that shows where they see themselves relative to others in their community (range 1–10). Respondents are then presented with another ladder (SES ladder), prefaced by text that explains the top of the ladder represents individuals in the United States who are the best off (in terms of money, education and respected jobs); those at the bottom are the worst off in these domains. Respondents mark the rung where they see themselves relative to others in the United States. The ladders have adequate test-retest reliability (Operario, Adler, & Williams, 2004) and predictive validity (Dennis et al., 2012).

Covariates

Maternal and Family Sociodemographic Characteristics—Annual family income was reported in nine categories, which were collapsed for the current analysis into 6 categories: <$12,000, $12,000–24,999, $25,000–49,999, $50,000–99,999, $100,000–149,999, and 150,000+. Mothers also reported their education level in 8 categories; these levels were collapsed into: less than high school/high school/GED, some college/2-year degree, 4-year degree, Masters, and Doctoral/professional degree. Mothers reported their marital status (married/not married), number of children in the home, age, and race/ethnicity (white, Black/African-American, Asian/Pacific Islander, or other). Due to small numbers of Asian/Pacific Islander mothers (n=3) and mothers selecting "other" race/ethnicity (n=3), these two categories were combined.

Statistical Analysis

During exploratory data analysis, patterns of missing data were examined. There were no missing data for the community ladder; three mothers from the community-recruited group were missing SES ladder rankings and these data points were imputed using the mean ladder rank for this group. Item-level missingness on the psychological functioning scales (0% to 13%), was imputed with the mean scores of completed items, as recommended by the scoring manuals for these assessments. Income data were incomplete for 5% of the sample;

all missingness was in the community-recruited sample, so missing data were imputed using the mean income category for the community-recruited participants.

Pearson correlation was used to evaluate the correlation between SES and community ladder rankings. Distributions for the maternal psychological distress scale scores (CESD, STAI, FSSQ) were skewed and remained skewed after various data transformation techniques were tested. Therefore, a nonparametric modeling approach, median quantile regression with bootstrapped standard errors, was employed for subsequent regression analysis. In preparation for regression analyses, multicollinearity among the covariates, particularly among objective socioeconomic status indicators and race, was evaluated using variance inflation factors. Family income and marital status were highly correlated with race and education, thus, income and marital status were not included as covariates in final models. Mothers' report of their education is likely less prone to measurement error than their reports of family income. We compared the results including income in the models described below instead of education and they were largely consistent. We also evaluated the impact of including marital status in race-stratified models and found the results unchanged.

To examine the relationship between maternal psychological distress and SSS, separate quantile regression models were constructed with social support, depressive symptoms, and anxiety as the dependent variables, and either the SES ladder or the community ladder as the main independent variable. Unadjusted models were fit first, then models were adjusted for sociodemographic covariates (including: maternal education, number of children in the home, and maternal age). Finally, to assess the relative contributions of the two ladders, both ladders were included as independent variables in unadjusted and adjusted models.

To determine whether the association between SSS and maternal psychological distress differed by race, first Chi-squared and Wilcoxon rank-sum tests were used to assess differences in demographic characteristics for categorical and continuous variables, respectively. Second, we tested a race x SSS interaction term. Then the regression models described above were performed separately for Black/African-American women (n=88) and white women (n=68) only. There were insufficient numbers of mothers of other racial/ethnic groups (n=6) to examine them. Statistical analyses were conducted with STATA 12.0 (StataCorp, College Station, TX).

RESULTS

Sociodemographic characteristics of the sample are summarized Table 1. The sample included a wide range of family incomes and educational backgrounds. About half the mothers were married and had, on average, three children living in the home. Overall, mothers placed themselves approximately one rung higher on the community ladder (mean (SD): 6.86 (1.91)) than on the SES ladder (Mean (SD) 5.94 (2.37), p<0.001). Mothers' SES and community ladder ranking were moderately correlated (r=0.49, p<0.001). Maternal psychological distress was prevalent. The mean score for depressive symptoms was 12.75; 31.48% of the sample scored 16 or higher, the cutoff for risk of clinical depression. The mean anxiety score was 37.17, and 42.59% of the sample scored 40 or higher, a common

cutoff point for risk of anxiety. Respondents' mean perceived social support was 33.60 on a scale from 8 to 40.

SSS and Maternal Psychological Distress

Consistent with our hypothesis, bivariate analyses showed that both lower SES and community ladder rankings were associated with maternal report of more depressive symptoms, more anxiety, and less perceived social support (Table 2). After adjusting for sociodemographic covariates, both ladders remained positively associated with perceived social support. The effect for the community ladder was slightly larger and more significant than for the SES ladder (Table 2). Community ladder ranking remained inversely related to depressive symptoms. Anxiety was not associated with either ladder in adjusted models.

Relative Contributions of the SES and Community Ladders

To evaluate the relative contributions of the two SSS ladders to psychological well-being, both were included as independent variables in the same model, first alone, and then with covariates. In models including both ladders (Table 3), each ladder was significantly inversely associated with depressive symptoms. In addition, the SES ladder was inversely associated with anxiety, and the community ladder was positively associated with social support. After adjusting for covariates, only community ladder ranking remained significantly associated with maternal psychological distress. Mothers with lower community ladder rankings reported more depressive symptoms and less perceived social support.

Differences by Maternal Race

Black/African-American women were younger, less likely to be married, reported lower family incomes and education, and, on average, rated themselves more than two rungs lower on the SES ladder compared to white women (Table 1). Both groups reported similar community ladder rankings. Black/African-American mothers reported mean levels of depressive symptoms just under the clinical cutoff of 16, while white women reported significantly fewer symptoms. Mean levels of anxiety were also higher among Black/African-American women. The two groups reported similar levels of social support (Table 1).

First we evaluated the interaction between SSS and race using an interaction term. It was not significant for either ladder. However, this was not unexpected given similar findings in studies with larger samples and likely differences in confounders (Allen et al., 2014). Thus, following Allen (2014) and Jones, we stratified the models by race (Jones, 2001). In adjusted stratified models with either SES or community ladder rankings as the independent variable, there were no differences in the relations between SSS and maternal psychological distress by race. For both white and Black/African-American mothers, community SSS was positively associated with social support after adjusting for sociodemographic characteristics (Table 4). However, the relative associations of the two ladders with maternal psychological distress differed by race. Adjusting for sociodemographic characteristics and objective SES, community SSS was positively associated with social support among Black/African-American mothers, but not among white mothers. There were no significant relations

between SSS and psychological distress among white women after accounting for sociodemographic characteristics and both ladder rankings.

DISCUSSION

In this study, we investigated the relative contributions of, and relationships between, the SES and community ladder rankings and psychological distress in mothers of young children. The results support our hypothesis that both SES ladder and community ladder ranking are positively associated with maternal well-being. Further, this study suggests community ladder ranking is more strongly associated with maternal psychological distress than SES ladder ranking. After adjusting for sociodemographic characteristics, including indicators of objective socioeconomic status, we found that mothers who perceived relatively lower status, whether in comparison to others in the United States, or in comparison to others in their community, reported less perceived social support.

Consistent with previous studies, mothers with relatively lower community ladder rankings also reported more depressive symptoms (Diaz et al., 2014; Ghaed & Gallo, 2007; E. Goodman et al., 2001). Significant associations were observed between SSS and perceived social support and depression, but not between SSS and anxiety. Recent studies have shown that perceived social support predicts and modulates symptoms of depression, but not of anxiety, which is consistent with the findings observed here (Friedmann et al., 2014; Lewis, Bates, Posthuma, & Polderman, 2014). Extending previous research, we found that after accounting for objective SES indicators, there was a stronger association between maternal psychological distress and relative position in one's community. Further, when relative social position compared to others in the country was also accounted for, community ladder ranking continued to be associated with maternal psychological distress. This suggests that maternal psychological distress may be more closely tied to self-esteem, the resulting social standing conferred by a set of resources and the utility of this esteem, as well as standing in a specific community, rather than to macro-level social comparisons (Adler et al., 2008).

Given existing evidence of racial differences in the relationship between SSS and health outcomes, we were interested in describing any differences by race (Allen et al., 2014; Ostrove et al., 2000). Previous literature suggests that Black-White differences in key outcomes such as infant mortality remain, even after accounting for a wide variety of risk factors, suggesting that race contributes to health disparities in ways that have not yet been fully described and measured (Lu & Halfon, 2003; Lu, 2010). Interestingly, we found that in general, the relationship between SSS and maternal psychological distress was similar between Black/African-American and white mothers. While Black/African-American mothers rated themselves significantly lower on the SES ladder than their white peers, and had, on average, lower objective SES, the two groups reported similar rankings using the community ladder. This finding contributes to growing literature that community ladder and SES ladder rankings capture fundamentally different aspects of social status.

Notably, in this study, community social standing was associated with psychological distress over and above the SES ladder only among Black/African-American mothers. Specifically, in models that included both ladders as well as indicators of objective SES and other

maternal and family socio-demographics, the SES ladders were not associated with maternal psychological distress in either racial group. The relationship between community ladder ranking and psychological distress was confined to Black/African-American mothers, among whom higher community self-rank was associated with more perceived social support. This also hints at a potential (but unmeasured) bidirectional relationship between community standing and mental health and well-being. Higher levels of perceived social support may themselves contribute to high community ranking. The salutary relationship between social capital and well-being may be particularly salient for historically marginalized women. Previous literature on SSS in various racial groups shows that the associations between ladder self-rank and health outcomes persist primarily in White participants; however, these studies have focused on physical health outcomes (Allen et al., 2014; Ostrove et al., 2000). Further study is needed to better understand why physical and mental health outcomes might relate differently to SSS in Black and white women.

While it is unclear whether higher levels of psychosocial distress cause lower SSS, or if low SSS causes more distress, the complex reciprocal relationships between SSS and mental health/perceived social support are important considerations for maternal, as well as child health. Maternal mental health is among the most robust predictors of child development and well-being (Kingston & Tough, 2014). Children whose mothers are depressed are more likely to experience higher levels of internalizing and externalizing problems, general psychopathology and social adjustment difficulties, as well as later mental health problems, and lower performance on cognitive, emotional, and behavioral assessments (S. H. Goodman et al., 2011; Kingston & Tough, 2014). An analysis of 948 mother-child pairs from the National Institute of Child Health and Human Development Study of Early Child Care showed that maternal depression and perceived social support accounted for as much of the variance in externalizing scores in first grade, as did maternal education and income (Anhalt et al., 2007). Maternal mental health is a modifiable influence on child outcomes, and identifying and intervening with mothers before their children reach school age has been shown to be more effective than school-age intervention (Doyle, Harmon, Heckman, & Tremblay, 2009). Recently, Lee et al., found that higher levels of maternal social support can buffer the adverse effects of maternal depression on child development (Lee, Halpern, Hertz-Picciotto, Martin, & Suchindran, 2006). This suggests that community ladder rankings, given their association with maternal social support and depression, might hold some value as a preliminary screening tool. Mothers of 5-year-old children are likely to interact with the healthcare system to update immunizations and health forms before Kindergarten enrollment, offering a window of opportunity to assess and address mothers' well being.

Among mothers in poverty, wherein SES indicators are likely to be narrowly constrained, administering the community ladder in clinical settings where mothers/and or their children seek care might provide a snapshot of their risk for depression and social support, and thereby an indicator of family-level risk. Efforts in primary care to screen for psychosocial risk and unmet need, might be complemented by using the community ladder as a brief, low-literacy, and non-stigmatizing way to evaluate both financial resources, as well as risk of depression and social isolation. Mothers who place themselves very low on the community ladder may be at higher risk for psychological distress that impacts their health and their child's well being. This approach merits further investigation.

Limitations

Our results should be interpreted in light of several limitations. Ours is a small and selected sample of women in an urban area. The racial groups were not equivalent in size; however, our choice of statistical method accounted for unequal variances and sample sizes. The sample over-represents more and less advantaged mothers, and underrepresents middle income women. There was an insufficient number of women in this sample to examine the relationship between SSS and mental well-being among women of other racial/ethnic backgrounds. Further, while we describe observed differences as racial, these differences are proxies for differences in a variety of factors such as sociocultural norms and experiences we did not measure. For example, Black/African-American mothers, while less likely to be married, were also more likely to live with another adult in the home (36/38 unmarried mothers who lived with another adult were Black/African-American). Black/African-American and white women reported similar levels of social support. Thus, in our sample, single parenthood is likely a reflection of local cultural norms about the utility and desirability of marriage, rather than a reflection of social isolation.

CONCLUSION

This study of mothers of young children adds to a growing literature that demonstrates that social standing is closely related to well-being. We found that perceptions of relative social position in one's community were associated with self-reported depressive symptoms and social support. In addition, this research suggests that when considered together, community social standing is associated with maternal well-being over and above broader national comparisons, particularly for Black/African-American mothers as compared to white mothers. Using the community ladder as a brief, low-literacy, and non-stigmatizing screening tool might provide insight about a mothers' risk and resilience in the context of her own community. Further, understanding the complex determinants of mothers' sense of well-being could be used to inform interventions that seek to strengthen communities— whether defined as neighborhoods, places of worship, schools, or other entities, with which involvement might have a salutary effect and could buffer women from the mental health sequelae of poverty.

Acknowledgments

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SIGNIFICANCE

Previous literature suggests that subjective social status predicts well-being above and beyond objective SES, and that these associations may differ by race/ethnicity. Given important links between maternal and child well being, we evaluated the relationship between SSS and maternal psychological distress in mothers of young children. Both SES and community ladder ranking were associated with maternal psychological distress, though the latter relationship was found to be particularly salient in Black/African-American mothers. These findings suggest that efforts to support low-income parents should consider opportunities to strengthen links between families and their communities. This may be particularly useful for Black/African-American mothers.

Table 1

Sample Characteristics.

	All Mothers n=162[a] n (%) or Mean ±SD	White Mothers n=68 n (%) or Mean ±SD	Black/African-American Mothers n=88 n (%) or Mean ±SD	Difference by race[b]
Family Income				***
<$12,000	31 (19.14)	2 (2.94)	29 (32.95)	
$12,000–$24,999	33 (20.37)	2 (2.94)	31 (35.23)	
$25,000–$49,999	14 (8.64)	4 (5.88)	10 (11.36)	
$50,000–$99,000	22 (13.58)	12 (17.65)	10 (11.36)	
$100,000–$149,999	30 (18.52)	24 (35.29)	5 (5.68)	
$150,000+	32 (19.75)	24 (35.29)	3 (3.41)	
Maternal Education				***
<HS/HS/GED	46 (28.40)	4 (5.88)	42 (47.73)	
Some College/2yr Degree	42 (25.93)	4 (5.88)	38 (43.18)	
4yr Degree	31 (19.14)	25 (36.76)	5 (5.68)	
Masters	21 (12.96)	18 (26.47)	1 (1.14)	
Doctoral/Professional	22 (13.58)	17 (25.00)	2 (2.27)	
Currently married	84 (51.85)	64 (94.12)	14 (15.91)	***
Maternal Age	33.27 ± 6.72	37.29 ± 5.10	29.82 ± 6.07	***
Number of children in home	2.62 ± 1.26	2.41 ± 0.10	2.76 ± 1.39	
Subjective Social Status				
Community Ladder Mean	6.86 ± 1.91	6.85 ± 1.57	6.80 ± 2.16	
SES Ladder Ranking Mean	5.94 ± 2.37	7.07 ± 1.79	4.94 ± 2.32	***
Maternal Well-Being				
Depressive Symptoms (CESD)	12.75 ± 10.72	9.04 ± 9.03	15.90 ± 11.12	***
Anxiety Symptoms (STAI) [a]	37.17 ± 9.95	35.12 ± 10.02	39.05 ± 9.70	*
Maternal Social Support (FSSQ)	33.60 ± 6.85	34.65 ± 5.41	32.73 ± 7.80	

[a] STAI n=161

[b] p value; differences between the two groups were assessed using Chi-square and Wilcoxon rank-sum tests

*$p<.05$;

**$p<.01$;

***$p<.001$

CESD: Center for Epidemiologic Studies Depression Scale; STAI: State-Trait Anxiety Index; FSSQ: Functional Social Support Questionnaire; HS: high school; GED: General Education Development; yr = year

Table 2

Unadjusted and adjusted associations between maternal distress, SES ladder scores and community ladder scores (n=162). [a]

SES LADDER

	Depressive Symptoms [b] β(SE)	Anxiety [c] β(SE)	Social Support [d] β(SE)
MODEL 1: UNADJUSTED			
SES Ladder	−1.75(0.56)**	−1.50(0.43)**	0.80(0.37)*
R²	0.06	0.08	0.03
MODEL 2: ADJUSTED			
SES Ladder	−0.53(0.47)	−0.61(0.59)	1.17(0.52)*
Maternal Education			
<HS/HS/GED	Reference	Reference	Reference
Some College/2yr Degree	−3.35(3.55)	0.94(2.81)	−0.17(2.70)
4yr Degree	−10.25(4.23)*	−13.10(3.90)**	1.63(2.60)
Masters	−11.31(4.10)**	−13.55(4.97)**	2.26(2.44)
Doctoral/Professional	−10.66(4.26)*	−13.16(5.05)*	0.86(2.78)
Number of Children in Home	1.83(0.92)*	1.00(0.91)	−0.97(0.73)
Maternal Age	−0.03(0.20)	−0.06(0.23)	−0.20(0.12)
Maternal Race			
White	Reference	Reference	Reference
Black/African-American	−2.22(2.61)	−7.35(2.69)**	1.69(1.70)
Other	2.75(6.07)	3.81(6.05)	−1.26(3.69)
R²	0.18	0.17	0.07

COMMUNITY LADDER

	Depressive Symptoms [b] β(SE)	Anxiety [c] β(SE)	Social Support [d] β(SE)
MODEL 1: UNADJUSTED			
Community Ladder	−1.50(0.65)*	−2.00(0.75)**	1.33(0.31)***
R²	0.04	0.05	0.08
MODEL 2: ADJUSTED			
Community Ladder	−1.34(0.52)*	−1.13(0.63)	1.34(0.33)***
Maternal Education			
<HS/HS/GED	Reference	Reference	Reference
Some College/2yr Degree	−1.26(3.52)	1.51(2.59)	−2.07(2.27)
4yr Degree	−10.89(3.79)**	−11.29(3.31)**	2.00(1.84)
Masters	−10.56(4.00)**	−9.85(4.91)*	1.01(1.83)
Doctoral/Professional	−9.98(3.79)**	−11.58(4.23)**	−0.52(2.14)
Number of Children in Home	1.39(0.86)	0.92(0.84)	−0.62(0.59)
Maternal Age	0.05(0.19)	−0.12(0.21)	−0.10(0.10)
Maternal Race			
White	Reference	Reference	Reference
Black/African-American	−0.55(2.51)	−5.48(2.60)	−2.31(4.13)
Other	4.33(6.53)	−0.12(0.21)	−0.10(0.10)
R²	0.21	0.18	0.11

[a] Regression coefficient (bootstrapped standard error).

*
 $p<.05$;

**
 $p<.01$;

***
 $p<.001$

[b] Measured by the CESD (Center for Epidemiologic Studies Depression Scale)

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[c]Measured by the STAI (State-Trait Anxiety Index); n=161

[d]Measured by the FSSQ (Functional Social Support Questionnaire)

Table 3

Unadjusted and unadjusted associations between maternal psychological distress and SES and community ladder scores in full sample (n=162).[a]

	Depressive Symptoms [b] β(SE)	Anxiety [c] β(SE)	Social Support [d] β(SE)
MODEL 1: SES AND COMMUNITY LADDER, UNADJUSTED			
SES Ladder	−1.29(0.41)**	−1.30(0.40)**	0.25(0.21)
Community Ladder	−1.55(0.65)*	−1.10(0.64)	1.25(0.34)***
R^2	0.08	0.09	0.09
MODEL 2: SES AND COMMUNITY LADDER, ADJUSTED			
SES Ladder	−0.37(0.48)	−0.27(0.66)	0.31(0.41)
Community Ladder	−1.14(0.57)*	−0.85(0.64)	1.39(0.37)***
Maternal Education			
<HS/HS/GED (reference)	Reference	Reference	Reference
Some College/2yr Degree	−1.15(3.42)	1.48(2.88)	−1.69(2.29)
4yr Degree	−10.10(3.78)**	−11.74(4.06)**	1.37(2.10)
Masters	−9.01(4.20)*	−10.76(5.65)	0.54(1.95)
Doctoral/Professional	−9.50(4.02)*	−11.57(5.22)*	−1.67(2.28)
Number of Children in Home	1.37(0.91)	0.69(0.87)	−0.76(0.56)
Maternal Age	0.03(0.19)	−0.13(0.23)	−0.07(0.11)
Maternal Race			
White (reference)	Reference	Reference	Reference
Black/African-American	−1.65(2.54)	−6.38(3.02)*	0.88(1.36)
Other	3.87(6.82)	2.75(6.36)	−1.47(3.91)
R^2	0.21	0.19	0.12

[a]Regression coefficient (bootstrapped standard error).

*
$p<.05$;

**
$p<.01$;

***
$p<.001$

[b] Measured by the CESD (Center for Epidemiologic Studies Depression Scale)

[c] Measured by the STAI (State-Trait Anxiety Index); n=161

[d] Measured by the FSSQ (Functional Social Support Questionnaire)

Pearson Correlation between community and US ladders: 0.49

Table 4

Unadjusted and adjusted associations between maternal distress, SES ladder scores and community ladder scores for white and Black/African-American mothers (n=156).[a]

	White Mothers (n=68) β(SE)			Black/African American Mothers (n=88) β(SE)		
	Depressive Symptoms[b]	Anxiety[c]	Social Support[d]	Depressive Symptoms[b]	Anxiety[c]+	Social Support[d]
INDIVIDUAL LADDERS						
SES LADDER						
UNADJUSTED	−1.00(0.68)	−2.20(0.85)*	1.00(0.55)	−1.00(0.76)	−0.78(0.75)	1.00(0.55)
ADJUSTED[e]	−0.95(0.61)	−1.35(1.00)	1.18(0.72)	−0.14(0.82)	−0.18(0.68)	0.80(0.70)
COMMUNITY LADDER						
UNADJUSTED	−1.50(1.06)	−1.63(1.02)	1.33(0.55)*	−2.00(0.64)**	−1.20(0.76)	1.57(0.38)***
ADJUSTED[e]	−1.60(0.90)	−1.95(1.28)	1.07(0.50)*	−1.00(0.73)	−0.59(0.69)	1.47(0.49)**
SES & COMMUNITY LADDERS						
UNADJUSTED						
SES Ladder	−0.92(0.66)	−1.67(1.02)	0.22(0.46)	−0.47(0.63)	−0.54(0.81)	0.14(0.41)
Community Ladder	−0.75(1.11)	−0.67(1.19)	1.11(0.55)*	−1.67(0.64)*	−0.62(0.75)	1.43(0.44)**
ADJUSTED[e]						
SES Ladder	−0.34(0.68)	−0.47(1.11)	0.21(0.76)	0.15(0.91)	0.18(0.82)	0.15(0.58)
Community Ladder	−1.35(0.98)	−1.55(1.38)	0.92(0.62)	−0.84(0.71)	−0.68(0.80)	1.48(0.51)**

[a]Regression coefficient (bootstrapped standard error).

*
p<.05;

**
p<.01;

***
p<.001

[b]Measured by the CESD (Center for Epidemiologic Studies Depression Scale)

[c]Measured by the STAI (State–Trait Anxiety Index);

+
n=87

^{d}Measured by the FSSQ (Functional Social Support Questionnaire)

^{e}Adjusted for: additional ladder, maternal education, number of children in the home, maternal age, and maternal race

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