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“Feeling Poor”: Perceived Economic Position and Environmental Mastery among Older Americans

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Abstract

Objective—This study examines the relationship between perceived economic position, objective socioeconomic status, and environmental mastery among older Americans.

Methods—Using data from the National Social Life, Health and Aging Project (NSHAP), I examine a). whether perceived economic position (PEP) is associated with environmental mastery even after accounting for objective economic status and b). whether the relationship between PEP and mastery varies by reference group (peers, Americans).

Results—High PEP is associated with higher mastery while low PEP is associated with lower mastery, even after controlling for objective economic status. In general, the relationship between PEP and mastery does not vary whether PEP relative to peers or PEP relative to American families is examined.

Discussion—These analyses provide insights into the important role of social comparisons in the connection between socioeconomic status and psychological well-being in the later life course.

Keywords

mastery; stress; socioeconomic status; relative deprivation

Across the life course, environmental mastery is an important determinant of health (Pearlin & Schooler, 1978; Pudrovska, Schieman, Pearlin, & Nguyen, 2005; Surtees, Wainwright, Luben, Khaw, & Day, 2006) as well as an indicator of well-being in and of itself (Ryff & Keyes, 1995). Environmental mastery (or simply “mastery”) reflects an individual’s beliefs about his or her ability to control and manage important life circumstances (Pearlin, Nguyen, Schieman, & Milkie, 2007; Pearlin & Schooler, 1978). Given the importance of mastery for well-being at older ages, understanding its determinants is an important objective.

Considerable prior empirical and theoretical work has focused on the role of socioeconomic status as a predictor of mastery (Gadalla, 2009; Mirowsky & Ross, 2003; Pearlin et al., 2007; Schieman & Turner, 1998). Socioeconomic status is theorized to contribute to mastery through a variety of pathways. First, higher levels of objective socioeconomic status increase individuals’ *actual* control over their lives, which frequently leads to a greater *sense* of control. For example, greater financial resources increase individuals’ abilities to effectively control many life circumstances, such as the kind of neighborhood they live in or whether they can pay for needed medical treatment. Higher occupational status is linked to greater control in workplaces (Marmot, 2004), and the cognitive skills conferred by higher levels of education are also thought to enable individuals to more successfully navigate and manage life circumstances (Mirowsky & Ross, 2003). Second, individuals’ *perceptions* of their objective socioeconomic status attainment confer mastery as individuals successfully achieve markers of social status, like higher education or economic stability. The personal achievement of desired and consequential markers of socioeconomic status imbues

individuals with the sense that they are in control of their lives. Conversely, individuals' perceptions that they have fallen short of desired social status may compromise mastery. Finally, socioeconomic status is associated with stress exposure (Baum, Garofalo, & Yali, 1999), which is also theorized to impact mastery. Stressors that are thought to be particularly consequential for mastery are those, like socioeconomic status, that are difficult to change and those associated with major domains of life (Pearlin et al., 2007). Stressors associated with socioeconomic status are linked to both objective levels of socioeconomic status, such as difficulty of making ends meet associated with absolute deprivation (i.e., "being poor") and to perceptions of socioeconomic status, such as feeling inferior to others associated with relative deprivation (i.e., "feeling poor").

Relative deprivation theory (Stouffer, Suchman, DeVinney, Star, & Williams, 1949) posits that individuals use social comparisons to evaluate objective position markers like income, and that these perceptions of position relative to others have implications for individuals' beliefs and attitudes over and above their own objective or absolute position. Beyond acknowledging the social psychological impact of individuals' subjective perceptions of their position relative to others (and beliefs that they may have fallen short) outlined above, an important issue in relative deprivation theory with implications for the study of mastery is the problem of multiple reference groups—the possibility that multiple social comparisons can yield multiple social statuses depending on social context (Merton & Rossi, 1968). For instance, an individual may be of relatively low social status compared with Americans as a whole, but may be of relatively high standing in his local community. Though an individual has a nearly infinite number of possible reference groups, classic social comparison theory stipulates that individuals most often compare themselves with similar and familiar others (Festinger, 1954; Stouffer et al., 1949), such as friends, family, coworkers, and neighbors. Comparisons to similar others may be particularly influential because individuals are more likely to have frequent contact with similar others and similar others may make for more salient comparisons (Merton & Rossi, 1968). For example, an individual may acknowledge that she is poor compared with an actress or professional athlete, but her low social status relative to these celebrities may be far less important to her than being worse off compared with a neighbor with whom she has much more in common and sees every day.

In short, the potential implications of socioeconomic status for mastery come both from conditions tied to *objective* socioeconomic status as well as individuals' *perceptions* of their socioeconomic status. Prior work, however, has generally focused only on objective measures of socioeconomic position rather than also on individuals' perceptions of socioeconomic position. This is problematic because objective measures of socioeconomic status capture how socioeconomic status confers mastery via *objective* means (like greater financial resources linked to income), but objective measures do not capture how socioeconomic status impacts mastery via individuals' *perceptions* of their socioeconomic position relative to others. Simply put, it is possible that an individual may objectively be poor (be experiencing absolute deprivation), but may not actually perceive themselves to be poor (be experiencing relative deprivation). Further, whether the relationship between perceptions of socioeconomic status and mastery varies by specific reference group has not been tested. Relative deprivation and social comparison theories suggest the particular importance of socially proximate reference groups like friends, neighbors, and coworkers, but empirical studies of perceptions of perceived socioeconomic status and other outcomes such as health have tended to find stronger relationships with more distal reference groups such as American families (Wolff, Subramanian, Acevedo-Garcia, Weber, & Kawachi, 2010). Increases in income inequality within the United States over the past few decades (Neckerman & Torche, 2007) makes the examination of psychosocial implications of perceived income inequality on a national level particularly important. Thus, the present

study examines the relationship between mastery and perceived economic position relative to both peers and American families.

The current study uses data from the National Social Life, Health, and Aging Project (NSHAP), a nationally-representative sample of Americans aged 57 to 85, to examine the links between perceived economic position, objective economic status, and environmental mastery. I employ two measures of perceived economic position (PEP) that ask respondents to rate their household income relative to two different reference groups: people they know and American families more broadly. These PEP measures more closely measure perceptions of relative income deprivation than prior studies that have focused on objective income levels. Examining the relationship between perceived economic position, objective socioeconomic status, and environmental mastery among older Americans is important because of two facts. First, some research suggests that income inequality in the United States increases over the life course (Crystal & Waehrer, 1996). Second, at the same time, Social Security provides an income floor that protects many individuals from absolute deprivation. The diminishing role of absolute deprivation combined with greater relative inequality in the later life course may make the impact of perceptions of economic position particularly important for mastery among older Americans. The current study asks two questions. First, is perceived economic position associated with mastery after controlling for objective economic status? Second, does the relationship between perceived economic position and mastery vary by reference group (PEP relative to peers, PEP relative to American families)?

METHOD

Data

Analyses use data from the National Social Life, Health, and Aging Project (NSHAP). The NSHAP is a nationally representative study of non-institutionalized older adults, collected from summer 2005 to spring 2006. The NSHAP data contains information on the demographic characteristics; romantic, sexual, and social relationships; and physical and mental health of 3,005 Americans aged 57 to 85. Most data were collected in an in-home interview, which was conducted in English or Spanish. Data were also collected via a written questionnaire that respondents completed and mailed back to researchers. The return rate for the written questionnaire was 84%. NSHAP oversampled Blacks, Hispanics, men, and persons aged 75-85. The final unweighted response rate was 74.8% (Lindau et al., 2007). Table 1 displays unweighted descriptive statistics for mastery and key covariates, including controls and potential confounders.

Outcome Variable

Mastery is measured using a 4-item modification of Cohen's Perceived Stress Scale (CPSS) (Cohen, Kamarck, & Mermelstein, 1983, $\alpha=0.63$). NSHAP did not contain a more conventional mastery scale such as the Pearlin mastery scale (Pearlin & Schooler, 1978), however an examination of items in the NSHAP CPSS scale revealed strong similarities to the items in Pearlin's scale. The NSHAP mastery scale contained four items: "I was unable to control important things in my life" (reverse coded), "I felt confident about my ability to handle personal problems", "I felt that things are going my way", and "I felt difficulties were piling up so high that I could not overcome them" (reverse coded). Response categories ranged from 1= "rarely or none of the time" to 4= "most of the time." Higher values indicate higher mastery.

Key Covariates

Perceived economic position measures—Respondents were asked two questions to ascertain perceived economic position (PEP) relative to two reference groups. Respondents were asked “compared with most of the people you know personally, like your friends, family, neighbors, and work associates, would you say that your household income is far below average, below average, average, above average, or far above average?” in order to ascertain perceived economic position relative to more socially proximate individuals. For simplicity, I refer to this measure as “perceived economic position relative to peers,” while acknowledging that the question prompt mentions individuals who may not actually be considered “peers.” Perceived economic position relative to American families was ascertained using the following question: “compared with American families in general, would you say that your household income is far below average, below average, average, above average, or far above average?” These measures were collected via leave-behind questionnaire. Out of 3005 respondents, 481 did not return the questionnaire (16% of the entire sample). An additional 150 and 158 respondents (~5% of the entire sample) did not answer the PEP relative to peers and relative to American families questions, respectively. Very few respondents (<1%) marked “refused” or “don’t know” for PEP measure questions. Those who returned the leave-behind questionnaire but did not answer the PEP measures are similar to those who did not return the leave-behind questionnaire. Respondents who did not return the questionnaire are more likely to be racial minorities, report poorer self-rated physical and mental health and more depressive symptoms and stress, have lower educational attainment, and have a relationship status other than married. Additional analysis (not shown) indicates that some of these characteristics (e.g. being nonmarried, being in poorer physical and mental health, lower education) are associated with lower PEP. This suggests that my estimates of the relationship between PEP and mastery may be underestimates.

Objective Economic Position—Models also include three traditional measures of socioeconomic status: education (reference= <high school, high school or equivalent, some college or associate’s degree, college or more), income, and assets. Income is based on response to the following question: “Altogether, what would you say was approximately the income of your household in [PREVIOUS YEAR] before taxes or deductions?” For income, the interviewer is instructed that the respondent should include earnings, government benefit, Social Security, Veterans benefits and SSI, and payments from pension plans of all members of the household, but that respondent should not include interest payments from savings and IRAs, dividends from stocks, bonds, or mutual funds, or monetary gifts. Despite the age of the sample, very few (less than 1% of respondents) reported zero income. The assets variable is based on responses to the following question: “Now I’d like you to think about all of the assets of your household. These are things like your house (if you own it), your cars, other rental properties and businesses you own, and financial assets like savings accounts, stocks, bonds, mutual funds, and pensions. Altogether, how much would you say that amounted to, approximately, after accounting for the loans you might have to pay off?”

Information on the precise income and assets of many respondents was missing. For income, 601 respondents reported “don’t know” and 279 refused. For assets, 818 responded “don’t know” and 333 refused. Multiple imputation (10 iterations) using a multivariate normal routine is used to impute missing values for income and assets (Rubin, 2004) using age, gender, race/ethnicity, education, and marital status. Quintiles were calculated from imputed income and assets and then quintiles were transformed into lowest quintile versus quintile two through five in order to identify the potential role of absolute deprivation captured by low levels (i.e., the bottom quintile) of financial resources. As a sensitivity check to this operationalization of income and assets, I also conducted all analyses with imputed income

and assets with each quintile coded separately, and as linear and quadratic terms. Point estimates and significance levels are nearly identical to those presented. Finally, I conducted analysis with only non-imputed data for income and assets. Results are similar whether imputed cases are included or not.

Controls and Confounders—Analyses also include measures for years of age (specified as linear and quadratic terms), gender (reference=male, 1=female), dichotomous race/ethnicity (reference = White and non-Hispanic, 1 = non-White and/or Hispanic), self-rated physical health (1 = “poor” to 5 = “excellent”), marital status (reference=married, 1 = divorced/separated, 2 = widowed, 3 = never married), currently employed (reference=not working for pay), and retired (reference=not retired).

Finally, I include two measures to account for positive and negative affect. Individual reporting style might impact both assessments of perceived economic position and outcomes of mastery. If affect is not controlled for, the relationship between PEP and mastery may be confounded, yielding upwardly biased estimates of PEP-mastery relationships. More precisely, I want to assure (to the greatest extent possible) that any observed relationships between PEP and mastery are truly between the specific PEP measures and mastery, and that PEP is not simply the result of more “upstream” forces related to affect. As a control for negative affect, I include a modified version of the Hospital Anxiety and Depression Scale (HADS-A; Zigmond & Snaith, 1983; Cronbach’s alpha = 0.74). Anxiety is also associated with neuroticism, which is strongly related to negative affect (Watson, Clark, & Tellegen, 1988). (See Shiovitz-Ezra, Leitsch, Graber, and Karraker (2009) for exact question wording). I also include a measure of self-esteem. While NSHAP did not collect information on personality, NSHAP’s self-esteem measure (“I have a high self-esteem,” from the Rosenberg Self-Esteem Scale) is correlated with the Big Five personality characteristics of emotional stability (the opposite of neuroticism) as well as extraversion, which may reflect reporting style (Robins, Tracy, Trzesniewski, Potter, & Gosling, 2001; Watson et al., 1988). Self-esteem was coded as an ordinal variable (reference= “not very true”, 1=“somewhat untrue”, 2=“neither true nor untrue”, 3=“somewhat true”, 4= “very true”). Sensitivity analysis (not shown) reveal that compared with models excluding the anxiety scale and self-esteem measures, models including these measures have somewhat attenuated coefficients for PEP measures, though substantive results and conclusions still hold in the models excluding anxiety and self-esteem.

Methods

Ordinal least squares regression is used to model mastery. All analyses were conducted in Stata version 12.0. Regression models are weighted to adjust for differential probabilities of selection and for nonresponse.

Models and Analytic Strategy

Model 1a estimates mastery as a function of perceived economic position relative to peers and basic controls and confounders (age, gender, race/ethnicity, marital status, self-rated physical health, employment status, retirement status, self-esteem, and anxiety). Model 1b estimates mastery as a function of perceived economic position relative to American families and these same basic control and confounder variable panel. Model 2a adds controls for objective SES measures (education, income, and assets) to Model 1a. Model 2b adds controls for objective SES measures (education, income, and assets) to Model 1b. In addition, in supplementary analysis I examine whether the relationship between perceived economic position measures and mastery varies by other measures of social position by examining interactions between PEP measures and age, gender, race/ethnicity, employment status, retirement status, education, income, and assets.

RESULTS

I begin by presenting descriptive statistics for all measures (Table 1). The majority of respondents report their perceived economic position as in one of the three central perceived economic position categories—"below average," "average," or "above average" (87.8% relative to peers, 84.7% relative to American families).

I next examine the relationship between perceived economic position and objective economic status. Figures 1 and 2 display the distribution of perceived economic position measures by income quintile. While those with very high or very low perceived economic position (i.e. rating their income as "far below average" or "far above average") tend to correspond to extreme income quintiles, there is substantial variation in middle PEP categories relative to both peers and American families. Table 2 displays the (unweighted) mean income and assets by perceived economic position measures. I present means rather than medians, which are usually used when presenting income and asset measures, because medians cannot be computed for imputed data. However, unlike medians, means are sensitive to outliers. In general, mean income and assets increase with higher perceived economic position, though Table 2 and Figures 1 and 2 demonstrate that by no means is PEP synonymous with objective income.

Table 3 displays the joint distribution of perceived economic position relative to peers and relative to American families. Results indicate that the majority of respondents (over 70%) report the same subjective economic position for both reference groups (characterized as "far below"/"below", "average", and "above"/"far above" on both PEP measures). Less than one percent of respondents reported highly dissonant statuses (i.e. high or very high income relative to one reference group and low or very low income relative to the other reference group). The two PEP measures are correlated at $|r|=0.78$ ($p<0.001$). Because of the high collinearity between these measures, perceived economic position relative to peers and relative to American families are not modeled jointly in regression models. In additional sensitivity analysis (not shown), I employ an alternative strategy to evaluate whether one reference group is more strongly related to mastery by including a measure of consonant/dissonant status between PEP measures, reflecting each of the nine possible combinations of PEP measures in Table 3. If one reference group appeared more influential for those with dissonant statuses across measures (such as if those with low PEP relative to peers and average PEP relative to Americans had lower mastery than those with average PEP relative to peers and low PEP relative to Americans), this would provide evidence of the relatively greater influence of the peer reference group. However, these measures of dissonant status are generally not related to mastery, reflecting at least in part a lack of statistical power. Thus, I only present and discuss models outlined in the analytic strategy, in which PEP relative to peers and PEP relative to American families are modeled separately.

Table 4 displays results from OLS regression models predicting mastery as a function of perceived economic position and objective economic status. In Model 1a, those reporting PEP as "far below average" relative to peers had 0.58 points lower mastery scores compared to those in the reference category who reported PEP "average" relative to peers ($p<0.01$). Those reporting PEP as "below average" relative to peers had 0.23 points lower mastery scores compared with those in the reference category ($p<0.10$), though this was only marginally significant. Those reporting PEP "far above average" relative to peers had 0.42 points higher mastery scores compared to those in the reference category ($p<0.01$). For Model 1b, which examines PEP relative to American families, there is a similar pattern. Those reporting PEP "far below average" relative to American families had 0.54 points lower mastery scores compared to those in the reference category who reported PEP "average" relative to American families ($p<0.01$). Those reporting PEP "above average" or

“far above average” relative to Americans had mastery scores 0.26 and 0.42 points higher, respectively, compared to those in the reference category ($p < 0.05$, $p < 0.01$). When objective economic status is controlled for in Model 2a and Model 2b, there is only modest attenuation in the magnitude of coefficients for PEP relative to peers and relative to American families. Stata does not support formal tests of equality of coefficients across models when imputed data is used, but a comparison of the magnitude of coefficients (and associated standard errors) between PEP relative to peers and PEP relative to American families in comparable models shows coefficients to be of similar size whether PEP relative to peers or relative to American families is examined. One apparent exception is the case of PEP “above average”, which is statistically significantly related to mastery scores for PEP relative to American families but not for PEP relative to peers.

Education, income, and assets are not associated with mastery either in the model presented here or in sensitivity analysis in which objective measures of socioeconomic status are modeled with all other variables besides PEP measures (not shown). Across models, higher levels of mastery are negatively associated with self-rated physical health and anxiety, and positively associated with being retired and self-esteem (results not shown).

Supplementary Analysis

Finally, I discuss models that examined whether the relationship between perceived economic position measures and outcomes vary by other measures of social position and status—age, gender, race/ethnicity, employment and retirement status, education, income, and assets—by adding an interaction term between each PEP measure and these other measures of social position and status to the models presented (not shown). Overall, the relationship between PEP and mastery did not vary by these other measures of social position. The sole exception was a significant interaction between PEP and current employment status. Current workers who reported their PEP relative to peers as “below average” had significantly lower mastery than those who were not currently working who had the same level of PEP relative to peers. However, this was the only significant interaction at the $p < 0.05$ level out of numerous tested interactions, which increases suspicions that this finding may be due solely to chance.

DISCUSSION

Scholars have examined the relationship between objective socioeconomic status and mastery across the life course, but prior research has lacked measures that capture individuals’ perceptions of their economic position, though this represents a potential important pathway linking socioeconomic status and mastery. Using data from the National Social Life, Health, and Aging Project (NSHAP), I use both measures of objective socioeconomic status as well as perceived economic position (PEP), which capture individuals’ subjective assessments of where their income stands compared to that of others. Further, I examined PEP relative to peers and relative to American families in order to determine if the implications of these perceptions varies by reference group. I find that perceived economic position is associated with mastery independent of objective economic position. Low perceived economic position status is associated with statistically significantly lower mastery compared with average perceived economic position. I also find that above average perceived economic position is often associated with statistically significantly greater mastery.

Relative deprivation theory emphasizes the negative consequences of “feeling poor” relative to others. Less emphasis has been placed on the benefits of high status. I find evidence of both in this study. It is unclear if a process of perceived “relative superiority” distinct from relative deprivation yields psychological benefits, or if the beneficial outcomes associated

with perceptions of higher socioeconomic status simply reflect the absence of the stresses and social marginalization of perceptions of low socioeconomic status. This finding also raises the question of whether perceptions of income inequality generate both “winners” and “losers” along status lines. Prior work invoking relative deprivation theory has often argued that social inequality is bad for everyone—not just those on the bottom, because inequality increase social distances between individuals (Wilkinson, 2005). Other work on social status more broadly, however, has focused on beneficial aspects of high social position, such as autonomy and self-efficacy, which are tied to mastery as well as well-being more broadly (Bandura, 2004; Marmot, 2004). The extent to which these psychosocial resources stem from perceived positions of dominance over others (such as supervising coworkers) compared to perceptions of social conditions that are simply correlated with status (such as having a flexible schedule) determines the distribution of the consequences of inequality.

These findings of the importance of relative superiority as well as relative deprivation suggest avenues for fostering well-being among older adults in therapeutic settings. One intervention strategy would be to encourage individuals to consider a broader set of measures beyond income as meaningful markers of social position. For example, an emphasis on the importance social roles of older adults as elders within families and communities, whom others respect for their wisdom and depend on as caretakers for grandchildren, promotes a more expansive definition of what resources are valuable and sources of individual “worth.” Among individuals who report feeling inferior to others, emphasis on the obstacles individuals have overcome and personal narratives of resilience despite hardships (e.g., financial troubles, health shocks), rather than comparisons with others, may be beneficial.

In addition, what appears to be a “relative superiority” process may actually reflect some individuals’ selective choice of reference groups to which they feel they are superior. Social comparison theory acknowledges that individuals may choose reference groups for the purposes of self-enhancement (Wills, 1981; Wood, 1989) and to protect self-image. The survey questions available in the NSHAP data, however, cannot determine whether individuals select reference groups for the purpose of self-enhancement as opposed to for other reasons, or even who comprises reference groups. However, my results suggest that choice of reference groups for the purposes of self-enhancement does not apply to most people. Results show that the vast majority of individuals do not think of themselves as “far above average” or even “above average.” The processes by which individuals choose reference groups, as well as why they choose them, are likely complex. Qualitative in-depth interviews, as well as consideration of respondents’ social networks in quantitative studies may shed light on this issue. A major contribution of this research is that it examines how the relationship between perceived economic position and mastery varies by reference group. In one instance I find that “above average” perceived economic position relative to American families is associated with mastery while the same category of perceived economic position relative to peers is not. In general, however, the relationship between PEP and outcomes does not meaningfully differ by reference group. One reason for the lack of variation by reference group is that respondents may extrapolate from these socially proximate reference groups to make inferences about where they stand in larger, more distal social and geographic units. This explanation is consistent with the relatively high correlation between perceived economic position relative to peers and relative to American families.

While other studies have not examined perceived economic position relative to multiple reference groups, it is useful to compare and contrast these findings with recent work examining more general subjective social status relative to multiple reference groups in order to obtain a clearer picture of the relationship between varied social comparisons and well-being. One recent study examined the relationship between self-rated physical health

and subjective social status relative to four reference groups: others in American society, others of the same race or ethnicity, neighbors, and parents at the same age (Wolff et al., 2010). The authors found that all reference groups were associated with self-rated physical health, but the strongest relationship existed between the respondents' health and their perceived status relative to other Americans. In addition, the authors reported that status relative to Americans remained associated with self-rated physical health when modeled jointly with perceive status relative to all other reference groups. Garbarski (2010) examined the relationship between subjective social status relative to others in the community and relative to Americans and self-rated health, depressive symptoms, and a summary score reflecting functional health, cognition, and pain. The author found that the relative importance of different reference groups depended on the specific outcome examined. Why different reference groups are more strongly implicated for specific outcomes should be further studied.

I did not find statistically significant associations between objective indicators of economic position (education, income, and assets) and mastery in either the main models presented or in additional analysis that model objective economic position separately from PEP measures. This finding is at first glance surprising, considering prior research has found mastery to be associated with objective SES, particularly poverty. One plausible explanation for the lack of association between objective economic position and mastery is the age of the sample. Given that the focal measure is based on perceived relative household income, a primary concern is differences in sources of income across all adult ages, and the role of Social Security in providing an income floor for those who receive it. Supplementary analysis, however, reveals that at least within the sample, the relationship between PEP measures and outcomes does not vary by age group. The majority of those in the youngest age group (ages 57-64) are not eligible for Social Security, increasing their similarity to younger individuals on a key measure. However, supplementary analysis revealed no difference in the relationship between PEP and mastery by age. It should be noted, however, that variations in paid work participation (a major source of income for many) do not just exist between younger and older adults, but also within age groups, due to factors such as unemployment and time off for family caregiving. In supplementary analysis, there was one instance in which those who were working and reported below average PEP had even lower mastery compared to those not working, though this finding should be interpreted cautiously, as it was the only significant interaction between PEP and a variety of characteristics and could be due solely to chance. Paid work participation (and lack of) is an important indicator of social status and patterns psychosocial environments that have implications for mastery (Marmot, 2004). Future research should consider how to integrate current and former employment, as well as the conditions of that employment into work examining the role of socioeconomic status as a determinant of mastery.

The general lack of heterogeneity in the relationship between PEP measures and mastery by other measures of social position (age, race, gender, etc.) merits further discussion. One explanation for this non-finding relates to the issue of statistical power. That the lack of statistically significant variation in the PEP-mastery relationship may be due to insufficient cell sizes at the extreme PEP values, resulting in a lack of statistical power to detect such a difference rather than a lack of substantive variation in the PEP-mastery relationship. A larger sample might be able to detect this variation. However, it should be noted that prior work has tested for racial variation in the relationship between more general subjective social status measures and physical health in analyses with more statistical power and has failed to find statistically significant racial variation (Wolff et al., 2010). Thus, a second, substantive, explanation that focuses on the generalizability of relative social comparisons for well-being across race, gender, age, and class lines should be considered. The importance of social comparisons with others, whether based on income or more general

markers of social position, may indeed be universal and transcend other determinants of inequality such as race and gender.

Limitations

This research also has limitations. First, these analyses should not be considered evidence of causal effects of perceived economic position on mastery. A primary concern is the cross-sectional nature of the data. Work on subjective social status using structural equation modeling to examine the plausibility of reciprocal relationships between subjective social status and depressive symptoms predicted subjective social status, rather than vice versa (Garbarski, 2010). However, even if longitudinal data were available, a fixed effects estimation strategy still may not be useful if there is little variation in perceived economic position over time. Though older ages are a time of considerable life transitions with economic consequences (e.g. widowhood, retirement, health declines), changes in objective economic circumstances may not be accompanied by changes in perceived economic position. Prior work on measures of subjective economic well-being among older adults in Singapore and Taiwan, for instance, found that absolute changes in income were often not associated with changes in respondents' assessments of income adequacy (Chan, Ofstedal, & Hermalin, 2002). In addition, unobserved heterogeneity creating spurious associations between perceived economic position and mastery. Analyses addressed this issue by controlling for anxiety and self-esteem, which prior research has found correlated with several aspects of personality tied to positive and negative affect (Robins et al., 2001; Watson et al., 1988). The stability and dynamics of perceived economic position over time should be further studied.

Another limitation of this research is relatively weak alpha (0.63) of the mastery scale (the modified Cohen's 4-item Perceived Stress Scale). Unfortunately, no other measures of mastery were collected in NSHAP. However, in the initial development of Cohen's stress scale, a four-item subscale with the items used in the present study was found to have acceptable validity and reliability (Cohen et al., 1983). Cohen's Perceived Stress Scale is often used to capture individual appraisals of life events as controllable and overwhelming (MacLeod 2012: 174). Nevertheless, the relatively low alpha of this scale suggests caution in interpreting results for mastery models. It is plausible that if a mastery scale with higher reliability was available, such as the Pearlin Mastery Scale, associations between PEP measures and mastery would be even stronger.

An important aspect of social comparison theory that this research cannot fully address is the issue of salience of financial resources themselves for individuals, as well as the salience of social comparisons themselves. NSHAP does not contain any measures regarding the salience of income as a metric for comparison or of the salience of social comparisons themselves for individuals. As a first step, I examined interactions between other social characteristics which might correlate with the salience of income, but in general, interactions were not significant.

Despite this study's limitations, these analyses provide new support for the role of social comparison processes and relative deprivation in linkages between socioeconomic status and mastery among older adults. Both quantitative and qualitative researchers should work to develop measures that can capture the complexity of these processes.

REFERENCES

- Bandura A. Health promotion by social cognitive means. *Health Education and Behavior*. 2004; 31:143–164. [PubMed: 15090118]

- Baum A, Garofalo JP, Yali AM. Socioeconomic status and chronic stress: does stress account for SES effects on health? *Annals of the New York Academy of Sciences*. 1999; 896:131–144. [PubMed: 10681894]
- Chan A, Ofstedal MB, Hermalin AI. Changes in subjective and objective measures of economic well-being and their interrelationship among the elderly in Singapore and Taiwan. *Social Indicators Research*. 2002; 57:263–300.
- Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. *Journal of Health and Social Behavior*. 1983; 24:386–396.
- Crystal S, Waehrer K. Later-life inequality in longitudinal perspective. *Journals of Gerontology Social Sciences*. 1996; 51B:S307–S318.
- Festinger L. A theory of social comparison processes. *Human Relations*. 1954; 7:117–140.
- Gadalla T. Sense of mastery, social support, and health in elderly Canadians. *Journal of Aging and Health*. 2009; 21:581–595. [PubMed: 19269929]
- Garbarski D. Perceived social position and health: is there a reciprocal relationship? *Social Science and Medicine*. 2010; 70:692–699. [PubMed: 20006415]
- Lindau ST, Schumm LP, Laumann EO, Levinson W, O’Muircheartaigh CA, Waite LJ. A study of sexuality and health among older adults in the United States. *New England Journal of Medicine*. 2007; 357:762–774. [PubMed: 17715410]
- Marmot, M. *The Status Syndrome*. Henry Holt; New York: 2004.
- Merton, RK.; Rossi, A. Contributions to the theory of reference group behavior. In: Merton, RK., editor. *Social theory and social structure*. The Free Press; New York: 1968. p. 279–334.
- Mirowsky, J.; Ross, CE. *Education, Social Status, and Health*. Aldine; NJ: 2003.
- Neckerman KM, Torche F. Inequality: causes and consequences. *Annual Review of Sociology*. 2007; 33:335–357.
- Pearlin LI, Schooler C. The structure of coping. *Journal of Health and Social Behavior*. 1978; 19:2–21. [PubMed: 649936]
- Pearlin LI. The sociological study of stress. *Journal of Health and Social Behavior*. 1989; 30:241–256. [PubMed: 2674272]
- Pearlin LI, Nguyen KB, Schieman S, Milkie MA. The life-course origins of mastery among older people. *Journal of Health and Social Behavior*. 2007; 48:164–179. [PubMed: 17583272]
- Pudrovskaya T, Schieman S, Pearlin LI, Nguyen K. The sense of mastery as a mediator and moderator in the association between economic hardship and health in late life. *Journal of Aging and Health*. 2005; 17:634–660. [PubMed: 16177454]
- Robins RW, Tracy JL, Trzesniewski K, Potter J, Gosling SD. Personality correlates of self-esteem. *Journal of Research in Personality*. 2001; 35:463–482.
- Rubin, D. *Multiple imputation for nonresponse in surveys*. John Wiley and Sons; New York: 2004.
- Schieman S, Turner HA. Age, disability, and the sense of mastery. *Journal of Health and Social Behavior*. 1998; 39:169–186. [PubMed: 9785691]
- Shiovitz-Ezra S, Leitsch S, Graber J, Karraker A. Quality of life indicators in the National Social Life, Health, and Aging Project. *Journal of Gerontology, Social Sciences*. 2009; 64B:i30–i37.
- Stouffer, SA.; Suchman, EA.; DeVinney, LC.; Star, SA.; Williams, RM, Jr. *Studies in social psychology in World War II: The American soldier*. Vol. 1, adjustment during army life. Princeton University Press; Princeton, NJ: 1949.
- Surtees PG, Wainwright NWJ, Luben R, Khaw K-T, Day NE. Mastery, sense of coherence, and mortality: Evidence of independent associations from the Epic-Norfolk prospective cohort study. *Health Psychology*. 2006; 25:102–110. [PubMed: 16448303]
- Watson D, Clark LA, Tellegen A. Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*. 1988; 54:1063–1070. [PubMed: 3397865]
- Wilkinson, RG. *The impact of inequality*. The New Press; New York: 2005.
- Wills TA. Downward comparison principles in social psychology. *Psychological Bulletin*. 1981; 90:245–271.

- Wolff LS, Subramanian SV, Acevedo-Garcia D, Weber D, Kawachi I. Compared to whom? subjective social status, self-rated health, and referent group sensitivity in a diverse US sample. *Social Science and Medicine*. 2010; 70:2019–2028. [PubMed: 20381225]
- Wood JV. Theory and research concerning social comparisons of personal attributes. *Psychological Bulletin*. 1989; 106:231–248.
- Zigmond AS, Snaith RP. The Hospital Anxiety and Depression Scale. *Acta Psychiatrica Scandinavica*. 1983; 67:361–370. [PubMed: 6880820]

Figure 1.

Proportionate Distribution of Income Quintile by Perceived Economic Position Relative to Peers

Figure 2.
Proportionate Distribution of Income Quintile by Perceived Economic Position Relative to American Families

Table 1**Unweighted Descriptive Statistics (National Social Life, Health, and Aging Project)**

	Mean/Percent	SD/SE	Range	N
<i>Outcome variables</i>				
Environmental mastery (Cronbach's alpha = 0.63)	10.21	2.28	(0-12)	2751
<i>Controls</i>				
Age	69.30	7.85	(57-85)	3005
Female	51.58	49.98		3005
Non-white and/or Hispanic	29.50	45.61		2993
Marital status				3005
Married	59.93			
Cohabiting	2.00			
Divorced/separated	12.38			
Widowed	22.00			
Never married	3.69			
Self-rated physical health	2.20	1.11	(0-4)	2993
Currently employed	0.31	0.46	(0-1)	3003
Currently retired	0.63	0.48	(0-1)	3003
Self-esteem	4.07	1.12	(1-5)	2780
Anxiety scale (Cronbach's alpha = 0.74)	3.57	3.46	(0-21)	2756
<i>Objective SES measures</i>				
Education				3005
Less than high school	23.26			
High school	26.39			
Some college	28.49			
College or more	21.86			
Income (including imputed)	\$49,373	\$1,579		2981
Assets (including imputed)	\$504,959	\$31,725		2974
<i>Perceived Economic Position measures</i>				
Income relative to peers				2370
"far below average"	10.25			
"below average"	20.80			
"average"	48.95			
"above average"	18.02			
"far above average"	1.98			
Income relative to Americans				2362
"far below average"	11.22			
"below average"	23.12			
"average"	41.66			
"above average"	19.90			
"far above average"	4.11			

Table 2

Bivariate Relationship between Imputed Income and Assets by Perceived Economic Position Measures (National Social Life, Health, and Aging Project)

	Income (\$)			Assets (\$)		
	Mean	SE	n	Mean	SE	n
<i>Perceived Economic Position Measures</i>						
Relative to Peers						
“far below average”	27,205	5,714	241	219,521	112,032	242
“below average”	27,832	2,212	487	264,291	64,193	484
“average”	50,214	2,692	1154	516,700	46,747	1152
“above average”	87,502	4,512	424	957,463	98,479	423
“far above average”	167,032	27,713	46	2,470,061	557,249	46
Relative to American Families						
“far below average”	25,549	5,302	264	211,937	112,180	261
“below average”	28,607	2,351	539	261,806	56,229	538
“average”	48,155	2,763	978	448,270	51,780	978
“above average”	81,609	3,354	467	942,771	99,142	466
“far above average”	157,900	17,577	96	2,272,417	364,873	96

Table 3

Joint Distribution of Perceived Economic Position Relative to Peers and Relative to American Families, Analytic Sample (n=2208) (National Social Life, Health, and Aging Project)

	Relative to Peers					
	Average		Very Low/Low		High/Very High	
	n	%	n	%	n	%
Relative to Americans						
Average	742	34%	173	8%	176	8%
Very Low/Low	98	4%	562	25%	12	1%
High/Very High	80	4%	10	0%	355	16%

Table 4

Perceived Economic Position and Objective Economic Position as Predictors of Environmental Mastery: Results from OLS Regression Models^a
(National Social Life, Health, and Aging Project)

	Model 1a		Model 1b		Model 2a		Model 2b	
	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
Perceived Economic Position								
Relative to Peers								
“far below average”	−0.58	0.19 **			−0.51	0.19 **		
“below average”	−0.23	0.13 †			−0.20	0.13		
“average”	-				-			
“above average”	0.17	0.11			0.15	0.11		
“far above average”	0.42	0.15 **			0.38	0.16 *		
Perceived Economic Position								
Relative to American Families								
“far below average”			−0.54	0.18 **			−0.45	0.18 *
“below average”			−0.08	0.13			−0.05	0.13
“average”			-				-	
“above average”			0.26	0.10 *			0.24	0.10 *
“far above average”			0.42	0.13 **			0.39	0.14 **
Education								
<High school					-		-	
High school					0.26	0.16	0.25	0.15
Some college					0.09	0.16	0.07	0.16
College or more					0.26	0.17	0.21	0.17
Income quintile								
1					−0.12	0.16	−0.13	0.16
2-5					-		-	
Assets quintile								
1					−0.07	0.14	−0.07	0.14
2-5					-		-	

	Model 1a		Model 1b		Model 2a		Model 2b	
	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
Constant	11.58	3.74 ***	10.92	3.77 ***	11.16	3.71 **	10.66	3.73 **
n	2208		2208		2208		2208	
df	(16, 2942)		(16, 2942)		(21, 2864)		(21, 2864)	
F-statistic	50.98 ***		50.70 ***		38.66 ***		38.45 ***	

Notes: Significance levels for two-tailed tests of coefficients:

Weights adjust for differential probabilities of selection and nonresponse.

- [†] p<0.10;
- * p<0.05;
- ** p<0.01;
- *** p<0.001.

^a All models also include measures of age, age-squared, gender, race/ethnicity, marital status, self-rated physical health, current employment, retirement, self-esteem, and anxiety.