



How do we assign ourselves social status? A cross-cultural test of the cognitive averaging principle



Matthew A. Andersson*

Yale University, United States

ARTICLE INFO

Article history:

Received 18 June 2014
 Revised 3 February 2015
 Accepted 18 February 2015
 Available online 2 March 2015

Keywords:

Social status
 SES
 Cognition
 Culture
 United States
 Japan

ABSTRACT

Subjective social status (SSS), or one's perceived social standing, is linked robustly to mental and physical health and is thought to be determined in part by a cognitive average of one's past, present and expected socioeconomic status. However, this averaging principle awaits a formal test. Further, cultures differ with regard to how they perceive and discount time. In this study, I draw upon cross-sectional data from the United States and Japan (2005 MIDUS non-Hispanic whites and 2008 MIDJA), which measured subjective status in terms of one's perceived standing within a personally defined community. I compare equal and unequal cognitive averaging models for their goodness of fit relative to a traditional present-based model. Socioeconomic status is assessed broadly, in terms of past, present and expected overall work and financial situations. In the United States, averaging models do not fit the data consistently better than a present-based model of SSS. However, in Japan, averaging models do fit SSS consistently better. These fit conclusions are robust to controlling for negative affect.

© 2015 Elsevier Inc. All rights reserved.

1. Introduction

Socioeconomic status is a multifaceted, complex assortment of resources that is linked to health outcomes including illness, disability and premature death ([Link and Phelan, 1995](#); [Schnittker and McLeod, 2005](#)). Given this complexity, a basic concern remains that “standard measures may not reflect important and relevant aspects of SES” ([Braveman et al., 2005:2885](#)). Accordingly, there is growing interest in alternative measures of social status such as subjective social status (SSS), which is thought to “epitomize life-time achievement” ([Demakakos et al., 2008:330](#)) and to capture observed as well as unobserved facets of socioeconomic resources. SSS correlates strongly with an assortment of physical and mental health indicators including depression, self-rated health, chronic illness, hypertension, and high-density lipoprotein cholesterol, and it also predicts dietary and exercise habits ([Adler et al., 2008](#); [Demakakos et al., 2008](#); [Franzini and Fernandez-Esquer, 2006](#); [Ghaed and Gallo, 2007](#); [Hu et al., 2005](#)). Furthermore, correlations between SSS and a wide variety of health indicators usually persist when controls for traditional SES (e.g., education, income, occupation) are introduced and SSS sometimes even predicts health outcomes more robustly or strongly than traditional SES ([Adler et al., 2008](#); [Singh-Manoux et al., 2005](#)). Unobserved facets not captured by traditional SES measures may include neighborhoods, educational experiences, meaningful social affiliations, job security and instability, career history and so forth. Further, subjective social

* Address: 204 Prospect Street, Room 206, Department of Sociology, Yale University, Center for Research on Inequalities and the Life Course (CIQLE), New Haven, CT 06511, United States.

E-mail address: matthew.andersson@yale.edu

status may capture one's *relative* standing in a personally relevant community, which in the end may be more decisive and relevant to well-being than any objective SES measure (Marmot, 2004; Wilkinson and Pickett, 2006).

While subjective social status may be especially relevant to understanding health disparities relative to traditional SES measures, it remains “seldom available and rarely studied” in studies of population health (Pampel et al., 2010:351). As SSS becomes more widely used in population health research, it will be valuable to know how individuals subjectively determine their own status. This will be important to understanding the underlying nature of health disparities linked to socioeconomic status (Schnittker and McLeod, 2005; Reitzel et al., 2010). According to the “cognitive averaging” principle, one's SSS is thought to be a general self-assessment that derives from some average of one's socioeconomic facets (e.g., Hu et al., 2005; Nobles et al., 2013; Singh-Manoux et al., 2005). In some specific formulations, cognitive averaging also is proposed to be an average of one's past, present and expected socioeconomic status (see Nobles et al., 2013:65; Singh-Manoux et al., 2003, 2005). Put another way, SSS is thought to be informed not simply by one's present resources, but rather by one's resource trajectory, though the relative importance of each time point for SSS assignment remains unclear (Netuveli and Bartley, 2012:1213; Schnittker and Bacak, 2013; Singh-Manoux et al., 2005:860; Wolff et al., 2010:2027).

The cognitive averaging principle, as it pertains to socioeconomic resources across time, awaits a formal test. To offer a test of its fit to variation in SSS, this study compares three alternative models of SSS. Two models represent equally and unequally weighted forms of cognitive averaging of socioeconomic variables across time; these models are compared against a model based solely in one's present socioeconomic status. An arithmetic averaging (“equal averaging”) model assumes equal weights given to the past, present and future. Alternatively, an “unequal averaging” model corresponds to a cognitive mechanism in which, for example, present resources are most important to one's perceived status. Unequal averaging is consistent with social–psychological and economic perspectives stating that the past, present and future carry differing degrees of value, utility or salience (e.g., Chen, 2013; Gilbert and Wilson, 2009; Tversky and Kahneman, 1974). It also is consistent with the general notion that individuals value current labor income in the broader context of their assets, wealth, and expected lifetime income (Wang, 2003).

A separate but related issue is that SSS has been used as a status measure in diverse nations and among immigrants (e.g., Franzini and Fernandez-Esquer, 2006; Goldman et al., 2006; Hu et al., 2005; Ishida, 2009; Kan et al., 2014; Leu et al., 2008; Nobles et al., 2013), and yet the averaging principle may operate differently across cultural contexts. For instance, cross-cultural research has found that Western and Eastern nations differ in their perceptions of time and in how they assign value to the past, present and future (Becker and Mulligan, 1997; Chen, 2013). Here I compare the three alternative models of SSS using data collected in the United States and in Japan. In 1985–2010, the United States and Japan offered one of the starkest contrasts in savings rates among industrialized Western nations, with the US savings rate equaling only about one-half of the Japan savings rate (Chen, 2013:715), which suggests these two nations differ substantially in how they cognitively assess present financial resources. Thus this comparison provides basic insight into how SSS is appraised by individuals vis-à-vis time while also testing the generalizability of this cognitive mechanism across disparate national cultures.

1.1. Social-psychological mechanisms of subjective social status

One's socioeconomic resources are assigned subjective value – and one assigns oneself a certain level of social status – according to social–psychological mechanisms. For instance, the SSS assignment process has been found to vary remarkably across racial and ethnic groups, likely due to differing values, historical experiences and levels of acculturation (e.g., Adler et al., 2008; Franzini and Fernandez-Esquer, 2006; Goodman et al., 2003; Wolff et al., 2010). Moreover, these studies find that SSS increases in its relevance to health outcomes as reference group size decreases (e.g., an entire nation versus one's community versus one's workplace or school), which implies that “narrow” SSS may more effectively tap social comparison processes. A principle of relative deprivation also has been used to understand how one's objective level of resources matter to one's perceived social standing and thus to health outcomes (Ostrove et al., 2000:617; Kondo et al., 2008; Wilkinson and Pickett, 2006).

In addition to these broad social–psychological mechanisms, time-based cognitive mechanisms may operate in the assignment of SSS (Schnittker and McLeod, 2005; Singh-Manoux et al., 2003). Adaptive expectations, which have received only limited attention within SSS research, refer to the possibility of self-comparison, such that one's own current socioeconomic status may be valued according to one's own past status (i.e. where one once stood) (Franzini and Fernandez-Esquer, 2006:791). This implies a model in which change in one's socioeconomic status across time shapes SSS (and concomitant mental and physical well-being) net of one's starting status (e.g., Burchardt, 2005; Hagerty and Veenhoven, 2003), and is equivalent to a model in which the effect of one's present status is estimated net of one's past status. Other research has shown that previous socioeconomic adversity, in terms of incarceration, continues to influence one's present SSS (Schnittker and Bacak, 2013). More generally, parental socioeconomic status has life-course effects on one's social status and well-being (e.g., Elder et al., 2003; Lareau, 2002; Ross and Mirowsky, 2011).

One's anticipated future resources also shape SSS. Franzini and colleagues (2006) find that trust of others as well as perceived opportunities factor into how one's social status is perceived (see also Ostrove et al., 2000). Trust and opportunity imply a forward-looking orientation to SSS, in which one's present resources are evaluated in the context of whether they are secure or under threat. Indeed, anticipated financial security over the next ten years predicts SSS net of current objective SES and at magnitudes comparable to large gains in current income or wealth (Singh-Manoux et al., 2003). Likewise,

psychosocial resources that reflect a forward-looking orientation, such as optimism, may mediate effects of SSS on physical and mental well-being (Cundiff et al., 2013; Ghaed and Gallo, 2007; Lundberg and Kristenson, 2008).

Past, present and expected socioeconomic resources are unified under the “cognitive averaging” principle. The averaging principle has been addressed by previous research only in a limited sense. That is, it only has involved the demonstration that a variety of socioeconomic facets independently matter to predicting SSS. Indeed, numerous studies have demonstrated the independent predictive value of past or early-life socioeconomic resources (such as parental socioeconomic status), current socioeconomic resources (such as household income) and future socioeconomic resources (such as anticipated financial security) for SSS. Several studies, such as Singh-Manoux et al. (2003, 2005), combine current and expected socioeconomic resources explicitly or do so indirectly by querying wealth such as car or home ownership (see also Brown et al., 2008; Demakakos et al., 2008; Wolff et al., 2010). However, these studies do not directly answer the question of how the past, present and future jointly factor into SSS, nor do they demonstrate that an averaging mechanism fits variation in SSS better than the most commonly used approach, which focuses solely on one’s present socioeconomic status.

1.2. The cognitive averaging principle: USA versus Japan

If cognitive averaging across time points in fact explains variation in SSS better than a model focused solely on present socioeconomic resources, then there is still a reasonable chance that averaging may proceed differently across national contexts. Given how SSS is a promising marker of socioeconomic status and how socioeconomic status is a powerful determinant of health and mortality, it is important to gain insight into how SSS is assigned across disparate national cultures.

The United States and Japan offer a useful comparison for a number of reasons. Broadly, these nations both are advanced industrial democracies, but Japan represents the only non-Western example of such a sociopolitical regime (Inaba et al., 2005:2283). This effectively means that the United States and Japan are matched with regard to their basic economic structure and basic educational system, though it should be noted that gender, education, and work and occupations differ markedly across these two nations (for detailed treatments, see Brinton and Tang, 2010; Sugimoto, 2010; Uggem and Shinohara, 2009). However, socioeconomic status, as indexed by education, income and other assets, serve as a widespread basis for conferring and receiving status gestures in both national cultures (Inaba et al., 2005; Ishida, 2009; Sugimoto, 2010). More pertinent to the current study, these nations have already been fruitfully compared with regard to how they value present versus future asset holdings (i.e. patience or time preference; Becker and Mulligan, 1997; Carroll and Summers, 1991; Stone and Ziemba, 1993), with Japan showing more patience (a lower discounting rate) than the United States on average. Indeed, Chen (2013) showed that Japan, which has a language rich in conflation of the present and the future, continues to have a significantly higher savings rate than the United States and to score higher on other measures of future valuation such as health behaviors (body mass index and safe sex practices). These linguistic differences are thought to indicate underlying differences in cognitive and cultural orientations toward the past, present and future.

Research using Japanese survey data has shown links between SSS and current socioeconomic status (Ishida, 2009; Kan et al., 2014; Kondo et al., 2008; Sakurai et al., 2010). For instance, Ishida (2009) found that SSS correlates with education, income and occupation similarly across the United States, Germany and Japan. However, similar to US-based research, research on SSS based on Japanese data leaves the cognitive process unclear. One’s present socioeconomic status should be informative for one’s status regardless of national culture, due to its immediate effects on how one conducts one’s life and the evaluative or status-based feedback one receives from others. On top of this, given a greater emphasis on future or expected status in Japan than in the United States, it stands to reason that the assignment mechanism underlying SSS in Japan may be more consistent with cognitive averaging.

1.3. Negative affect and the cognitive averaging principle

While SSS shows promise in capturing numerous, difficult-to-measure facets of one’s socioeconomic standing, it also represents a *subjective* appraisal of one’s status, as opposed to traditional, *objective* indicators of SES such as education or income. Thus, while SSS variation is driven in part by objective socioeconomic resources, it also is susceptible to individual differences that may color how favorably one appraises one’s objective resources. Following this logic, some researchers have found it useful to control for dispositions such as negativity (e.g., sadness, hopelessness, anxiety), so that the remaining SSS variation then may be more closely linked to any objective resource differences. Indeed, several studies on subjective social status have demonstrated that individuals prone to negative emotion perceive themselves as lower in status net of objective status indicators (e.g., Adler et al., 2000; Operario et al., 2004; Singh-Manoux et al., 2003).

In addition to influencing ratings of subjective status, individual differences in negativity may matter for research conclusions about cognitive averaging. Specifically, negativity may carry differing levels of importance across ratings of one’s past, present and future socioeconomic status. For instance, a lesser amount of concrete information is available for the future relative to the present, perhaps making future SES especially susceptible to dispositional negativity. If negativity shapes one’s reporting of the past, present and future to differing degrees, then conclusions about which time points are most relevant to assigning oneself social status may simply be due to differences in negativity or mental health in the population. To help ensure that research conclusions are not simply due to idiosyncratic personal outlooks, I examine confounding by negativity for past, present and future SES separately, and then I also examine whether my model fit conclusions are robust to controlling for negative affect.

2. Materials and methods

2.1. Sample

Data on subjective social status and past, present and expected socioeconomic status are made available by Wave 2 (2005 Wave) of the National Survey of Midlife Development in the United States (MIDUS) as well as the 2008 Survey of Midlife Development in Japan (MIDJA), both administered by the John D. and Catherine T. MacArthur Foundation (available on the ICPSR website: <http://www.icpsr.umich.edu>). Wave 1 of MIDUS is not appropriate because it does not query subjective social status. The main component of MIDUS is a probability sample consisting of English-speaking, noninstitutionalized adults residing in the contiguous United States. Initial response rate at Wave 1 (1995) was approximately 70%. About 65% of the Wave 1 sample participated at Wave 2 (71% when adjusting for mortality). The MIDJA sample was collected in Tokyo, Japan based on a two-stage stratified design (sample stratified by age and gender within 23 wards in Tokyo). Overall response rate was 56.2%.

I restrict the MIDUS analytic sample to non-Hispanic whites ($N = 1585$). This is advisable given how numerous studies have found that the nature and extent of parameters influencing SSS differs fundamentally across racial and ethnic groups (Adler et al., 2008; Brown et al., 2008; Franzini and Fernandez-Esquer, 2006), and also given that over 90% of respondents in MIDUS classified themselves as non-Hispanic white. MIDJA did not collect race or ethnicity information; I utilize the entire sample ($N = 1027$). As shown in Table 1, work situation and income variables had slightly elevated levels of missing data. However, as demonstrated in Section 3.4, model fit conclusions are unchanged by analyzing financial situation only and/or excluding sociodemographic covariates.

2.2. Measures

2.2.1. Subjective social status (SSS-community)

In MIDUS and MIDJA, respondents received a common version of the MacArthur subjective social status measure (Adler et al., 2000; Ishida, 2009; Kan et al., 2014). They were shown an illustration of a ladder, and then told, “Think of this ladder as representing where people stand in their communities. People define community in different ways; please define it in whatever way is most meaningful to you. At the top of the ladder are the people who have the highest standing in their community. At the bottom are the people who have the lowest standing in their community. Where would you place yourself on this ladder?” (1 = lowest rung, 10 = highest rung). This particular version of the MacArthur SSS question taps a meaningful

Table 1
Descriptive statistics (MIDUS and MIDJA surveys).

Variable	2005 MIDUS (United States; non-Hispanic whites)					2008 MIDJA (Japan)				
	N	M	SD	Min	Max	N	M	SD	Min	Max
Subjective social status (SSS-Community)	1562	6.48	1.84	1	10	989	6.03	2.11	1	10
<i>Broad SES measures</i>										
Average work situation	1440	7.30	1.62	0	10	979	5.95	1.81	0	10
Average financial situation	1542	6.59	1.62	0	10	1016	5.46	1.79	0	10
Present work situation	1473	7.44	2.18	0	10	1002	5.90	2.36	0	10
Past work situation	1508	7.05	2.18	0	10	1007	6.43	2.21	0	10
Expected work situation	1462	7.45	2.54	0	10	986	5.54	2.55	0	10
Present financial situation	1556	6.46	2.17	0	10	1020	5.22	2.35	0	10
Past financial situation	1565	6.24	2.20	0	10	1020	6.09	2.20	0	10
Expected financial situation	1554	7.06	2.19	0	10	1016	5.07	2.43	0	10
<i>Sociodemographic covariates</i>										
Education (Years)	1583	14.29	2.66	4	20	1015	13.41	2.57	8	19
Income (\$K or adequate) ^a	1514	69.65	61.27	0	300	1011	0.61	0.49	0	1
Occupational prestige ^b	1551	40.47	14.31	9.56	80.53	1027	0.24	0.43	0	1
Male	1585	0.46	0.50	0	1	1027	0.49	0.50	0	1
Age	1585	57.12	12.65	34	84	1027	54.36	14.14	30	79
Married	1582	0.69	0.46	0	1	1025	0.69	0.46	0	1
Works full-time	1585	0.46	0.50	0	1	1027	0.47	0.50	0	1
Works part-time	1585	0.09	0.29	0	1	1027	0.18	0.38	0	1
Negative affect (K-6 scale)	1572	1.53	0.58	1	5	1024	1.69	0.65	1	5

Note. MIDUS sample is restricted to non-Hispanic white respondents. Average work and financial situations are calculated as arithmetic averages using past, present and expected situation scores.

^a In United States, household income is measured in thousands of dollars; in Japan, income is measured as adequacy of available money.

^b In United States, this refers to current or past Duncan SEI score; in Japan, this refers to holding a professional/managerial occupation.

community reference group however defined by the respondent, which makes it relevant to mental and physical health outcomes (see also Cooper et al., 2010; Ghaed and Gallo, 2007; Wolff et al., 2010).

2.2.2. Socioeconomic status: broad, time-specific assessments of work and finances

MIDUS and MIDJA queried respondents about their overall work and financial situations, both of which I use to broadly tap one's socioeconomic status. Each situation was queried using three items aimed at the present situation, one's situation ten years ago, and one's situation ten years into the future. Respondents were asked, "Using a scale from 0 to 10, where 0 means 'the worst possible [work/financial] situation' and 10 means 'the best possible [work/financial] situation,' how would you rate your situation these days?" The past-oriented version adjusted this wording ("Looking back ten years ago, how would you rate your [work/financial] situation at that time?") as did the future-oriented version ("Looking ahead ten years into the future, what do you expect your [work/financial] situation will be like at that time?").

Although the cognitive averaging principle usually is stated in terms of an "average of standard markers of SES" (Singh-Manoux et al., 2005:855), the usage of broad appraisals of one's work and financial situation carries a number of strengths relative to using objective SES measures. First, and perhaps most obviously, objective aspects of SES are largely time-invariant. Namely, level of education is constant for almost all middle-aged adults, and occupation similarly does not change across time for most adults. While household income may vary noticeably from year-to-year, income often is measured with considerable error, and is only one aspect of one's overall financial situation. In contrast, appraisals of work and financial situation are likely to exhibit wide substantive variation, due to capturing observed as well as unobserved resources relevant to one's social standing. In the case of financial situation, changes in income, wealth and general financial security are likely to be captured. In the case of work situation, information relevant to social status, such as prestige, autonomy, or promotions, likewise are factored in (see also Singh-Manoux et al., 2003).

2.2.3. Sociodemographic covariates

One's appraisal of one's past, current and expected work and financial situations are likely to be shaped by objective resources and by one's demographic background. In the results presented, I control for key sociodemographic covariates. This helps to ensure that effects are not due to absolute levels of socioeconomic resources (e.g., high levels of education or low income) and that effects hold across basic population groups as defined by age, gender and marital status.

Education was surveyed by MIDUS and MIDJA in terms of credential points (i.e., completion of junior high, high school, Associate's or vocational degree, Bachelor's, Master's, graduate school or doctorate), with degree midpoints also present (e.g., some college, no degree yet). I recoded this variable so that education is measured as 0–20 years of formal instruction. Household income for the past year (\$0–300,000+; log-transformed) is measured in MIDUS. In MIDJA, however, only a question pertaining to financial hardship is available, which I recoded to an indicator signifying whether the respondent and his/her family currently have funds perceived to be adequate (0 = no, 1 = yes). Occupational prestige is measured in MIDUS using the Duncan SEI index; in the event that respondent is not currently employed, previous SEI is used. For MIDJA, an occupational prestige score is not provided, and is measured here as an indicator for currently holding a professional/managerial occupation. Gender is measured as an indicator for male (0 = female, 1 = male). Age (years) ranges from young adulthood to old age (e.g., Nobles et al., 2013; Operario et al., 2004; Sakurai et al., 2010). Current marital status is provided in both surveys, as are current full- and part-time work status.

2.2.4. Negative affect

In supplementary models, I control for level of negative affect experienced during the past 30 days (Adler et al., 2000; Operario et al., 2004; Singh-Manoux et al., 2003). In MIDUS and MIDJA, this was assessed according to the K-6 measure of nonspecific psychological distress (Kessler et al., 2002). Respondents were asked "During the past 30 days, how much of the time did you feel..." nervous, restless or fidgety, hopeless, worthless, that everything was an effort, and so sad that nothing could cheer you up (5 = all of the time, 4 = most of the time, 3 = some of the time, 2 = a little of the time, 1 = none of the time; MIDUS alpha = .87, MIDJA alpha = .86).

2.3. Analytic strategy

For the United States and for Japan, three alternative ordinary least-squares (OLS) regression models of SSS are estimated. In a first model (present-based), SSS is regressed solely on present work and financial situation. Next, in a second model (equal cognitive average), SSS is regressed on the arithmetic mean of past, present and expected situation, thus constraining work and financial situation for each time point to have the same coefficient. In a final, third model (unequal cognitive average), SSS is instead regressed on past, present and expected work and financial situations separately, thus allowing each time point to have a unique coefficient. All models control for sociodemographic covariates.

Model selection proceeds according to three key criteria for non-nested models: Adjusted R^2 , AIC (Akaike Information Criterion) and BIC (Bayesian Information Criterion). Lower values of AIC and BIC suggest a better fit to variation in subjective social status. BIC differences between 6 and 10 are taken as "strong" evidence that one model is more supported by the observed data and those exceeding 10 give "very strong" or perhaps even "conclusive" evidence (Raftery, 1995). BIC penalizes more sharply than AIC for number of parameters and thus the unequal average model, which has four additional parameters, fares worse on this criterion all else equal. While AIC and BIC usually agree on model selection, it is advisable

to include both in critical adjudications of models, as AIC and BIC rely on distinct assumptions about the existence of true models and thus may yield differing recommendations (Kuha, 2004).

3. Results

Descriptive statistics for the United States (MIDUS) and Japan (MIDJA) are given in Table 1. For both samples, the average SSS community ladder value is between 6.0 and 6.5 points (similar to Ishida, 2009:48–49; Leu et al., 2008:1157; Schnittker and Bacak, 2013:242). Ratings of past, present and future work and financial situations averaged in the middle values (about 5.1–7.5 on an 11-point scale [range = 0–10]), though ratings were considerably higher in the United States. Work and financial situations across time points (past, present and expected) were weakly to moderately correlated (work intercorrelations $r = -0.03$ to 0.57 for USA, 0.15 – 0.58 for Japan; financial intercorrelations $r = 0.07$ – 0.60 for USA, 0.18 – 0.62 for Japan) and average work and financial situation correlated moderately to strongly with given time-point situations ($r_s = .51$ – $.86$, see Appendix Table A1). In both samples, the average respondent possessed some university education, was middle-aged (about 55 years old), married, and worked either full- or part-time.

3.1. Associations of SSS and situation variables with objective SES measures

As shown in Table 2, one's subjective community standing (SSS) was positively linked to traditional, objective SES measures: namely, one's education (years), household income, and occupational prestige in the United States as well as in Japan ($r_s = .119$ – $.173$, $ps < .001$; $ts = 2.239$ – 5.016 , $ps < .03$). Present work or financial situation also showed considerable positive associations with these SES measures ($r_s = .097$ – $.243$, $ps < .001$; $ts = 3.998$ – 16.36 , $ps < .0001$). Future work or financial situation possessed similar positive associations with these same SES measures (not shown; $r_s = .165$ – $.240$, $ps < .0001$; $ts = 2.672$ – 10.592 , $ps < .01$). Past work or financial situation, while it yielded inconsistent associations (either nonsignificant or positive) with these SES measures (not shown; $r_s = -.042$ to $.075$, $ps = .720$ – $.003$; $ts = 0.788$ – 7.637 , $ps = .431$ to $<.0001$), was significantly higher among those who owned their home outright (relative to those paying on a mortgage or renting; $ts = 3.816$ – 9.665 , $ps \leq .0001$) and showed negative links to indicators of current financial hardship (low income, heavy debts, or difficulty paying bills on time; $r_s = -.100$ to $-.214$, $ps \leq .0001$, $ts = -4.387$ to -5.445 , $ps < .0001$), suggesting meaningful links to objective SES.

3.2. Model comparisons: United States

Models of SSS (community ladder) for the United States and Japan are presented in Table 3. Beginning with the United States models, the present-based model shows that present work and financial situations both are linked positively to SSS score net of covariates ($bs > .13$, $ps < .01$). Among covariates, education, age and being male are significantly and positively associated with perceived status ($ps < .01$). Next, the equal cognitive average model shows positive associations between SSS and average work and financial situations ($bs > .15$, $ps < .01$). However, the fit of this cognitive averaging model is marginally inferior to that of the present-based model ($R^2_{\text{equal cogn. average}} = 0.153 < R^2_{\text{present-based}} = 0.156$, AIC and BIC differences ≈ 4.4). Finally, an unequal cognitive averaging model, while it offers a very slight gain in adjusted explained variation relative to a present-based model ($R^2_{\text{present-based}} = 0.156 < R^2_{\text{unequal cogn. average}} = 0.159$), is indistinguishable from the present-based model in terms of AIC (AIC difference < 1) and worse in terms of BIC (BIC difference = 20.9). Adding to this assessment, the unequal cognitive averaging model clearly shows that only present work and financial situations are linked to SSS ($ps < .01$), which is in keeping with a present-based model of SSS. Overall, then, cognitive averaging models do not fit variation

Table 2

Associations of SSS-Community and work and financial situation with traditional SES measures.

Traditional SES measure	MIDUS (United States)			MIDJA (Japan)		
	SSS-Community	Present work situation	Present financial situation	SSS-Community	Present work situation	Present financial situation
Education	0.173***	0.139***	0.174***	0.17***	0.105**	0.185***
Income (\$K or adequate) ^a	0.119**	0.097***	0.243***	5.016***	6.888***	16.36***
Occupational prestige ^b	0.169***	0.139***	0.213***	2.239*	4.245***	3.998***

Note. Values are pairwise Pearson correlations when not bold; bolded values are independent-samples t -statistics (variances unequal), given the dichotomous nature of Japan income and occupation variables.

^a In United States, household income is measured in thousands of dollars; in Japan, income is measured as adequacy of available money.

^b In United States, this refers to current or past Duncan SEI score; in Japan, this refers to holding a professional/managerial occupation.

* $p < .03$ (two-tailed).

** $p < .001$ (two-tailed).

*** $p < .0001$ (two-tailed).

Table 3
OLS regression models of subjective social status in community (SSS-Community).

DV: SSS-Community Independent variable	MIDUS (United States)			MIDJA (Japan)		
	Present-based	Equal cognitive average	Unequal cognitive average	Present-based	Equal cognitive average	Unequal cognitive average
Average work situation		0.158**			0.155**	
Average financial situation		0.183**			0.238**	
Present work situation	0.137**		0.127**	0.095**		–0.007
Past work situation			0.035			0.072 [^]
Expected work situation			–0.002			0.101 [^]
Present financial situation	0.131**		0.094**	0.147**		0.086 [^]
Past financial situation			0.031			0.086 [^]
Expected financial situation			0.048			0.06
Education	0.076**	0.075**	0.076**	0.093**	0.079**	0.077**
Income	0.056	0.058	0.053	0.24	0.155	0.164
Occupational prestige	0.005	0.006	0.005	0.076	0.099	0.122
Male	0.406**	0.397**	0.405**	0.296**	0.295 [^]	0.273 [^]
Age	0.021**	0.023**	0.020**	0.017**	0.020**	0.021**
Married	0.222 [^]	0.233 [^]	0.216 [^]	0.403**	0.376**	0.384**
Works full-time	0.174	0.205	0.188	0.334 [^]	0.429 [^]	0.469**
Works part-time	0.05	0.052	0.056	0.023	0.114	0.161
Constant	1.445**	0.779 [^]	1.034 [^]	1.769**	0.942	0.835
N	1324	1324	1324	928	928	928
Adjusted R ²	0.156	0.153	0.159	0.13	0.159	0.158
AIC	5171.908	5176.279	5172.012	3910.422	3878.672	3883.886
BIC	5228.981	5233.351	5249.839	3963.586	3931.836	3956.381

Note. Unstandardized estimates are shown.

^{*} $p < .05$ (two-tailed).

^{**} $p < .01$ (two-tailed).

[^] $p < .10$ (two-tailed).

in SSS better than a traditional present-based model in the United States. In fact, according to most criteria, averaging models actually demonstrate a worse fit.

3.3. Model comparisons: Japan

Continuing in Table 3, models of SSS are displayed for Japan. Beginning with the present-based model, present work and financial situation both show positive associations with community ladder score ($bs > .09$, $ps < .01$). Among covariates, education, age and being male and married are linked to increased SSS ($ps < .05$). Next, the equal cognitive average model yields positive coefficients for average work and financial situation ($bs > .15$, $ps < .01$). Moreover, the fit of this model to variation in SSS is stronger than that of the present-based model ($R^2_{\text{equal cogn. average}} = 0.159 \gg R^2_{\text{unequal cogn. average}} = 0.130$; AIC and BIC differences > 30). Similarly, an unequal cognitive averaging model is stronger than a present-based model ($R^2_{\text{unequal cogn. average}} = 0.158 \gg R^2_{\text{present-based}} = 0.130$; AIC difference = 26.5, BIC difference = 7.2).

Moreover, the unequal averaging model reveals that only past and expected work situation and past financial situation are linked significantly to SSS, with present financial situation showing a marginal positive association. While this is instructive, it should be noted that the equal cognitive average model fits the data better than an unequal averaging model ($R^2_{\text{equal cogn. average}} = 0.159 > R^2_{\text{unequal cogn. average}} = 0.158$; AIC difference = 5.2, BIC difference = 24.5). In total, then, SSS in Japan more likely operates according to cognitive averaging than according to a present-based appraisal of one's social standing, though estimates suggest that averaging is unequal across time points.

3.4. Alternative specifications of SSS models: situations and covariates

Next, I determine whether model fit results are sensitive to how socioeconomic standing is measured or whether sociodemographic covariates are included. Toward this end, I estimated additional sets of models (Appendix Table A2). In these additional sets, I considered all possible combinations of situation measurement (work situation, financial situation or both situations) and inclusion of sociodemographic covariates (yes or no). Across all model sets, highly similar results emerged. In particular, for the United States, an averaging model (either equal or unequal) never receives substantially more support from the data than a corresponding present-based model (i.e. AIC and BIC differences never exceed 6), except in one case (equal averaging when financial situation only is used; AIC and BIC differences = 6.9). In contrast, for Japan, an averaging model (either equal or unequal) always receives substantially more support from the data than its corresponding present-based model. Overall, the Japanese SSS data always support some form of cognitive averaging whereas the USA SSS data almost never do.

3.5. Controlling for negative affect

Table 4 summarizes regressions of SSS-Community on broad SES indicators, before and after controlling for negative affect. Past, present and future work and financial situations are analyzed separately, so as to assess differential confounding across these time points (similar to Operario et al., 2004). Here, three basic observations will be made. First, no association is wholly confounded by negative affect; that is, all significant associations between SSS-Community and SES indicators remain significant even when negative affect is controlled. Second, in MIDUS, future situation shows a considerably greater coefficient reduction once negative affect is controlled, relative to past or present work or financial situation. Following this result, appraisals of one's socioeconomic future may be especially confounded with negative affect. Third, in MIDJA relative to MIDUS, coefficient reductions are noticeably more similar across the past, present and future, though in MIDJA the present is reduced a bit more than the past or future.

Once negative affect is controlled, some of the coefficients shown in Table 3 (corresponding to Model Set 6 in Appendix Table A2) decrease somewhat in magnitude; however, all magnitudes remain similar, and all coefficients retain similar levels of significance (available on request). Appendix Table A3 presents non-nested model fit criteria for the same sets of models as before, controlling for negative affect. The same substantive conclusions regarding model fit are obtained. Specifically, in the United States, no averaging model shows substantially more support from the data than the present-based model (based on AIC and BIC). And, in Japan, an averaging model (unequal, equal, or both types) always shows superior fit relative to a present-based model. To sum, while negative affect appears to influence perceptions of one's past, present and future to differing degrees, this does not alter conclusions about which combinations of the past, present or future are most useful in determining subjective status in the United States or in Japan.

3.6. Additional results

3.6.1. Past-based models of SSS

One's past work or financial situation refers to ten years before one's current subjective social standing (SSS). Given this temporal arrangement, past-based measures may be most likely to predict SSS differences relative to one's present or future situation; relative to past experiences, exposure to present circumstances and to future expectations may be more limited or less tangible. However, BIC differences revealed that a model of SSS based in one's past work or financial situation (not shown in tables) actually showed the *worst* fit of all proposed models, both in the United States and in Japan. In the United States, BIC differences were +55.65 for work situation and +46.09 for financial situation (versus present-based ["PB"] model; Model Sets 2 and 4, Appendix Table A2); in Japan, BIC differences were +31.72 and +21.75 for work situation (versus the equal and unequal averaging models, respectively; Model Set 2) and +38.31 and +25.40 for financial situation (Model Set 4). The relatively weaker explanatory power of one's past for current perceived social standing is in keeping with recent findings on subjective appraisals of intragenerational social mobility (Houle, 2011; see Discussion).

3.6.2. Interactions with age

Aging entails basic shifts in a variety of meanings, roles and expectations that are relevant to understanding social status. As age increases, the cognitive process behind assignment of social status may accordingly shift. To examine this possibility, I interacted age with the work and financial situation variables. In MIDJA, no significant age interactions emerged. However, in MIDUS, age interacted negatively with present work situation and with average work situation (see Table 5). Following these interactions, the cognitive mechanism behind subjective status becomes less present-focused with increasing age, and work situation as a whole becomes less predictive of social status with age. Of key interest, the age interactions do not change United States conclusions regarding the fit of the present-focused model versus averaging models.

Table 4

OLS regression models of SSS-Community based on broad SES measures, controlling for negative affect.

Model	Broad SES measure: work situation			Broad SES measure: financial situation		
	Past	Present	Expected	Past	Present	Expected
<i>MIDUS (United States)</i>						
Model 1 (controls only)	0.074	0.200	0.124	0.111	0.215	0.179
Model 2 (+negative affect)	0.059	0.145	0.079	0.086	0.162	0.128
% Change (versus Model 1)	-25.424	-37.931	-56.962	-29.070	-32.716	-39.844
<i>MIDJA (Japan)</i>						
Model 1 (controls only)	0.165	0.194	0.204	0.211	0.248	0.230
Model 2 (+negative affect)	0.136	0.153	0.172	0.180	0.208	0.195
% Change (versus Model 1)	-21.32	-26.80	-18.60	-17.22	-19.23	-17.95

Note. Unstandardized OLS coefficients are shown. Each model regresses SSS-Community on a broad SES measure (past, present or expected work or financial situation), controlling for sociodemographic characteristics (male, age, married, works full-time or part-time). In an additional Model (Model 2), negative affect during the past 30 days also is controlled. Percent change in the association between SSS-Community and a given SES measure when negative affect is controlled is reported in italics.

All coefficients are significant at $p < .01$ (two-tailed).

Table 5
Interaction of age with work situation (2005 MIDUS).

DV: SSS-Community	MIDUS (United States)		
	Present-based	Equal cognitive average	Unequal cognitive average
Average work situation		0.165**	
Average financial situation		0.185**	
Present work situation	0.132**		0.114**
Past work situation			0.040 [^]
Expected work situation			0.008
Present financial situation	0.129**		0.089 [*]
Past financial situation			0.034
Expected financial situation			0.051
Age × Present work situation	−0.006**		−0.006**
Age × Average work situation		−0.008**	
Education	0.079**	0.079**	0.078**
Income	0.054	0.055	0.049
Occupational prestige	0.005	0.005	0.005
Male	0.419**	0.410**	0.420**
Age	0.021**	0.022**	0.020**
Married	0.224 [^]	0.231 [*]	0.217 [^]
Works full-time	0.134	0.174	0.143
Works part-time	0.051	0.046	0.056
Constant	3.668**	3.256**	3.053**
N	1324	1324	1324
Adjusted R ²	0.162	0.16	0.165
AIC	5164.428	5167.106	5162.355
BIC	5226.689	5229.367	5245.37

Note. Unstandardized estimates are shown. All interacted terms (age and present or average work situation) are mean-centered.

** $p < .01$.

* $p < .05$.

[^] $p < .10$ (two-tailed).

4. Discussion

SES represents a multifaceted and often difficult-to-measure cluster of social and economic resources that is linked robustly to health, morbidity and mortality (Link and Phelan, 1995). Subjective social status shows great promise in tapping this highly complex cluster, many elements of which are unobserved in traditional survey designs. Despite this promise, it remains unclear how individuals actually assign themselves subjective social status. Clearly, the status individuals perceive themselves to have is in part a function of traditional SES resources such as education or occupational prestige. However, socioeconomic resources such as financial holdings and security change over time, as do certain aspects of one's work situation. The present study exploits broad indicators of such work- and finance-based variation to offer a test of the cognitive averaging principle. Indeed, broad indicators of one's work and financial situations showed substantial correlations with traditional SES measures, providing reasonable grounds for a cross-cultural test of a cognitive averaging principle.

Results surprisingly showed that cognitive averaging – in which one's past, present and expected socioeconomic standings are jointly appraised in assigning oneself social status – does not explain variation in SSS consistently better than a traditional present-based model among non-Hispanic whites in the United States. In contrast, Japanese data show that an averaging model is more consistent with the data than is a present-based model. In total, then, this study provides a first empirical test of the cognitive averaging principle vis-à-vis time horizons while also providing evidence to suggest that cognitive averaging differs across national cultures.

In the United States, only the present mattered significantly to subjective social standing; past and future work or financial situations were not significant predictors of subjective standing. This dovetails with economic research finding that the United States is relatively present-focused, in that time discounting is greater in the United States than in other Asian countries (Chen, 2013). Moreover, auxiliary results showed that a past-only model provided the worst fit to SSS variation in the United States. Drawing upon Wisconsin cohort data, Houle (2011) similarly found that one's current social class is much more predictive of one's current well-being than is one's prior class standing.

Furthermore, in the United States, work situation evidenced weaker links to subjective community standing with increasing age. This is consistent with work-related commitments becoming less important to social status as individuals age; however, no such result obtained in Japan. Also, in the United States, the cognitive mechanism comes closer to resembling a true averaging process with age; with diminishing importance given to the present, a greater relative emphasis is placed on one's past or future accomplishments, by definition. However, future research should resolve these age-related findings by drawing upon APC (age-period-cohort) methodology (e.g., Hu, 2014; Yang, 2008), so as to distinguish among historical processes (e.g., earthquake in Tokyo, September 11th in the United States), cohort effects (e.g., coming of age during certain political eras), and maturational processes (due to the biological, social, or psychological consequences of aging).

For Japan, a complex pattern of results emerged, such that the past, present or future may factor into subjective status, depending on whether work or financial situation is being considered. This suggests that the superior fit of the cognitive averaging model is due to a complex cognitive process. According to the presented regression models, this process operates such that the effect of present work situation effectively is accounted for or explained by one's past and expected work situation, whereas the impact of financial situation on SSS is explained more by one's past and present situation than future situation.

Time preferences or discounting rates also vary substantially within cultures (Zimbardo and Boyd, 1999). They are shaped by one's social roles and personal experiences. Therefore cognitive averaging mechanisms may differ across population sub-groups within a given society. For instance, age and gender both are prime sources of expectations and norms for how to achieve social standing in both the United States and in Japan, and differing combinations of age and gender may yield unique cognitive mechanisms for appraising one's social status. Further, a variety of personal life experiences, such as adversity and illness, as well as personality differences, such as neuroticism or negative affect, would be useful to investigate directly in future research. Neuroticism already has been linked to differences in objective and subjective status both cross-sectionally and longitudinally (Alfonsi et al., 2011). Auxiliary analyses that controlled for negative affect or for physical health status upheld the current substantive findings regarding model fit for the United States as well as Japan. This suggests that the observed associations between community social standing and one's work and financial situation are not due to any differences in proneness to anxiety or in minor or major health problems, both of which may indicate exposure to life adversity.

The United States and Japan show differing macroeconomic processes, in terms of social mobility (e.g., Breen and Jonsson, 2005; Ishida, 2009) and job uncertainty (Kalleberg, 2009), both of which matter for one's future work or financial situation. Low mobility and secure jobs make for past, present and future work or financial situations that are largely overlapping, due to a relative absence of socioeconomic transitions or instability across the life course. However, under macroeconomic conditions of higher mobility or higher job uncertainty, the past, present and future are likely to be seen as more dynamic and independent, such as through downward mobility (e.g., white-collar professional to blue-collar worker), career change, or involuntary job loss. According to the results here, future work situation is linked to SSS net of past and present work situation in Japan, which supports the argument that Japanese individuals view the future as having a unique community status role above and beyond the present. Put differently, if status-relevant mobility or job insecurity both were low or negligible, then one's future should not generally matter for one's status once one's past and present are taken into consideration. Similarly, the coefficient for expected financial situation for Japan, while it does not attain significance in its own right, resembles the coefficients for past or present financial situation.

The large-scale data used here possess some limitations. First, only cross-sectional data were available. This makes the past retrospective and the future projective. Alternatively, with panel data, the respondent would be assessing their past, present and future as they occur, which may lead to different rating styles regarding one's work or financial situation. For instance, one's assessment of the past or future would likely become less biased by one's present successes or failures, as individuals tend to see their past failings and future prospects through the lenses of present circumstances (i.e. by using immediately salient or available information; Gilbert and Wilson, 2009; Tversky and Kahneman, 1974).

MIDJA included Tokyo only, making it unclear whether the cognitive mechanisms at play would pertain also to rural Japanese settings (see also Nobles et al., 2013:65). Also, MIDJA did not query race or ethnicity. Minority groups in Japan (e.g., resident Koreans) may differ in how they perceive the link between community standing and socioeconomic status. As for the United States, MIDUS did not provide a robust sample of minority respondents. Similar to previous SSS research that has harnessed small samples to gain insights about certain racial or ethnic groups (e.g., Adler et al., 2008; Franzini and Fernandez-Esquer, 2006), auxiliary MIDUS results suggested that results are similar for non-whites (i.e. averaging provides a worse fit than a present-based model).

An important limitation of this study is the usage of broad and subjective indicators of socioeconomic status – namely, work and financial situation. While these broad situational indicators were reasonable in this case because they permitted a basic cross-cultural comparison given data limitations, and because they showed strong correlations with key, objective SES facets such as education, income, occupation, home ownership, or financial hardship, it is not entirely clear how these indicators operate with respect to objective SES. To some extent, these broad indicators resemble the SSS question itself, in that individuals offer subjective assessments of their current situations or standings according to some comparison process. “The best possible” or “the worst possible” situation – the anchoring points of these broad indicators – may be perceived according to self-comparison (i.e. one's own life course or trajectory), social reference groups, or both.

The current study utilized a community-based measure of perceived social status. Moving forward, it would be valuable to know whether the results obtained also obtain for broader measures of SSS not available in MIDUS or MIDJA (such as the SSS-United States measure) and for “narrower” measures (such as an SSS-workplace measure or SSS-school measure; see Camelo et al., 2013; Goodman et al., 2003; Wolff et al., 2010). Moreover, the present version of the SSS-Community measure did not explicitly mention socioeconomic status as a basis of ladder rungs (i.e. education, income or occupation), as some other versions of SSS questions do (e.g., Adler et al., 2008; Demakakos et al., 2008; Nobles et al., 2013). Versions of the SSS question that do not mention SES correlate highly with those that do (Ghaed and Gallo, 2007; Goldman et al., 2006). Nonetheless, future research should determine whether cognitive averaging processes differ across various measures of subjective social status.

Subjective social status may be configured by the resources held by one's significant others. In Japan, about half of older Japanese adults live with adult children (Raymo and Kaneda, 2002). Similarly, parental or spousal resources may enter into appraisals of one's own social status (Schnittker and McLeod, 2005). Future research should take a closer look at averaging across parents', spouse's and children's resources. Moreover, since these resources change across time, it would be valuable to know how such changes dynamically shape one's own subjective status.

Considered as a whole, this study lends new insight into how individuals appraise their social status. Detailing the cognitive process behind subjective social status is a useful endeavor, given how subjective status has shown robust links to mental and physical health in a variety of population studies. Among non-Hispanic whites in the United States, present-based variation in socioeconomic standing seems decisive. In contrast, Japanese individuals seem to balance cognition across time points when assigning themselves status. A time-based approach to cognitive averaging may be combined with other

Table A1

Zero-order correlations of SSS-Community with broad SES measures.

	1	2	3	4	5	6	7	8	9
<i>MIDUS (United States)</i>									
(1) SSS-Community	1.00								
(2) Avg work situ.	0.25	1.00							
(3) Avg. finan. situ.	0.29	0.48	1.00						
(4) Present work situ.	0.26	0.82	0.42	1.00					
(5) Past work situ.	0.13	0.51	0.24	0.18	1.00				
(6) Expected work situ.	0.15	0.76	0.35	0.57	<u>-0.03</u>	1.00			
(7) Present finan. situ.	0.29	0.40	0.85	0.43	0.14	0.28	1.00		
(8) Past finan. situ.	0.16	0.26	0.62	0.18	0.36	0.04	0.29	1.00	
(9) Expected finan. situ.	0.19	0.39	0.75	0.31	0.02	0.46	0.60	0.07	1.00
<i>MIDJA (Japan)</i>									
(1) SSS-Community	1.00								
(2) Avg work situ.	0.29	1.00							
(3) Avg. finan. situ.	0.33	0.61	1.00						
(4) Present work situ.	0.23	0.86	0.51	1.00					
(5) Past work situ.	0.19	0.63	0.33	0.36	1.00				
(6) Expected work situ.	0.23	0.78	0.53	0.58	0.15	1.00			
(7) Present finan. situ.	0.29	0.49	0.86	0.52	0.19	0.39	1.00		
(8) Past finan. situ.	0.22	0.37	0.64	0.25	0.50	0.12	0.33	1.00	
(9) Expected finan. situ.	0.25	0.53	0.80	0.40	0.08	0.68	0.62	0.18	1.00

Note. All correlations are significant at $p < .05$ except in one case (underlined).

Table A2

Non-nested model fit information for all SSS-Community models (United States and Japan).

Models of SSS-Community				MIDUS (United States)				MIDJA (Japan)			
Situation	Model type	Ctrls	Model set	N	Adj. R ²	AIC	BIC	N	Adj. R ²	AIC	BIC
Work situation only	PB				0.066	5680.6943	5691.2125		0.053	4065.294	4075.0027
	ECA	No	1	1421	0.061	5688.3424	5698.8606	948	0.082	4035.7638	4045.4725
	UCA				0.071	5674.8534	5695.8899		0.080	4038.9485	4058.3659
	PB				0.141	5239.0685	5291.0354		0.116	3924.1897	3972.52
	ECA	Yes	2	1335	0.137	5244.9501	5296.917	928	0.140	3898.6237	3946.9541
	UCA				0.143	5237.829	5300.1892		0.142	3898.921	3956.9174
Financial situation only	PB				0.083	6048.5655	6059.2224		0.086	4170.8145	4180.5916
	ECA	No	3	1523	0.082	6049.9935	6060.6503	981	0.109	4145.8047	4155.5819
	UCA				0.089	6040.312	6061.6258		0.108	4148.6782	4168.2325
	PB				0.131	5625.9057	5678.567		0.127	4047.8916	4096.561
	ECA	Yes	4	1431	0.135	5618.9916	5671.6529	960	0.155	4015.742	4064.4113
	UCA				0.136	5619.5506	5682.7441		0.154	4018.9155	4077.3187
Work and financial situations	PB				0.107	5550.4989	5566.2401		0.092	4025.819	4040.3821
	ECA	No	5	1404	0.099	5563.4755	5579.2167	948	0.116	4000.5771	4015.1402
	UCA				0.111	5548.0623	5584.7918		0.116	4004.997	4038.9775
	PB				0.156	5171.908	5228.9805		0.130	3910.4225	3963.5858
	ECA	Yes	6	1324	0.153	5176.2785	5233.3511	928	0.159	3878.6725	3931.8358
	UCA				0.159	5172.0125	5249.8387		0.158	3883.886	3956.3814

Note. Each model set regresses SSS-Community on work or financial situation or both situations. "PB" = Present-Based Model, "ECA" = Equal Cognitive Average Model, "UCA" = Unequal Cognitive Average Model. "Ctrls" refers to sociodemographic covariates (education, income, occupational prestige, male, age, married, works full-time or part-time). Averaging models that receive substantially more support from the data than their corresponding present-based model (AIC and BIC differences both exceed 6) are bold-underlined. All parameter estimates for Model Set 6 are given in Table 2.

Table A3

Non-Nested Model Fit Information for All SSS-Community Models, Controlling for Negative Affect (United States and Japan).

Models of SSS-Community				MIDUS (United States)				MIDJA (Japan)			
Situation	Model type	Ctrls	Model set	N	Adj. R ²	AIC	BIC	N	Adj. R ²	AIC	BIC
Work situation only	PB	No	1	1413	0.105	5594.8876	5610.648	946	0.090	4020.9172	4035.4739
	ECA				0.103	5598.0145	5613.7749		0.112	3997.0865	4011.6432
	UCA				0.109	5590.7942	5617.0615		0.113	3998.9315	4023.1928
	PB	Yes	2	1327	0.165	5175.7826	5232.8801	926	0.138	3894.0851	3947.2247
	ECA				0.164	5178.0694	5235.1669		0.157	3873.2502	3926.3898
	UCA				0.167	5174.918	5242.3968		0.160	3872.3224	3935.1237
Financial situation only	PB	No	3	1514	0.124	5948.5897	5964.3376	978	0.115	4128.0055	4142.662
	ECA				0.124	5948.37	5964.3376		0.134	4106.8334	4121.4899
	UCA				0.128	5942.9859	5969.5984		0.132	4110.5269	4134.9545
	PB	Yes	4	1422	0.165	5539.0828	5596.9408	957	0.146	4014.5166	4068.0185
	ECA				0.168	5534.0315	5591.8895		0.169	3988.4519	4041.9537
	UCA				0.168	5536.6271	5605.0047		0.169	3991.1471	4054.3765
Work and financial situations	PB	No	5	1396	0.132	5485.2565	5506.222	946	0.117	3993.3323	4012.7413
	ECA				0.129	5490.9339	5511.8994		0.137	3971.4513	3990.8603
	UCA				0.136	5483.7506	5525.6815		0.136	3976.1796	4014.9976
	PB	Yes	6	1316	0.174	5118.321	5180.5092	926	0.147	3885.2911	3943.2616
	ECA				0.174	5118.9876	5181.1758		0.171	3858.7834	3916.7539
	UCA				0.176	5119.155	5202.0726		0.171	3862.8923	3940.1863

Note. Each model set regresses SSS-Community on work or financial situation or both situations, controlling for negative affect during the past 30 days. "PB" = Present-Based Model, "ECA" = Equal Cognitive Average Model, "UCA" = Unequal Cognitive Average Model. "Ctrls" refers to sociodemographic covariates (education, income, occupational prestige, male, age, married, works full-time or part-time). Averaging models that receive substantially more support from the data than their corresponding present-based model (AIC and BIC differences both exceed 6) are bold-underlined.

social-psychological mechanisms relevant to SSS, such as reference groups and relative deprivation, to produce deeper insights into the SSS assignment process.

Acknowledgments

Participants in the Robert Wood Johnson Foundation Health & Society Scholars Program (UCSF and UW-Madison) offered valuable input. Thanks also to Mark Walker and to Jennifer Glanville, James Raymo, Freda Lynn and Rusty Gates for their feedback. This research was supported initially by a Presidential Graduate Fellowship at The University of Iowa. Neither ICPSR nor the MacArthur Foundation bear any responsibility for any results or interpretations herein.

Appendix A

See Appendix Tables A1–A3.

References

- Adler, Nancy, Epel, Elissa, Castellazzo, Grace, Ickovics, Jeannette, 2000. Relationship of subjective and objective social status with psychological and physiological functioning: preliminary data in healthy, White women. *Health Psychol.* 19, 586–592.
- Adler, Nancy, Singh-Manoux, Archana, Schwartz, Joseph, Stewart, Judith, Matthews, Karen, Marmot, Michael G., 2008. Social status and health: a comparison of British civil servants in Whitehall-II with European- and African-Americans in CARDIA. *Soc. Sci. Med.* 66, 1034–1045.
- Alfonsi, Giuseppe, Conway, Michael, Pushkar, Dolores, 2011. The lower subjective social status of neurotic individuals: multiple pathways through occupational prestige, income, and illness. *J. Pers.* 79, 619–642.
- Becker, Gary S., Mulligan, Casey B., 1997. The endogenous determination of time preference. *Quart. J. Econ.* 112, 729–758.
- Braveman, Paula A., Cubbin, Catherine, Egerter, Susan, Chideya, Sekai, Marchi, Kristen S., Metzler, Marilyn, et al, 2005. Socioeconomic status in health research: one size does not fit all. *J. Am. Med. Assoc.* 294, 2879–2888.
- Breen, Richard, Jonsson, Jan O., 2005. Inequality of opportunity in comparative perspective: recent research on educational attainment and mobility. *Annu. Rev. Sociol.* 31, 223–243.
- Brinton, Mary C., Tang, Zun, 2010. School-work systems in postindustrial societies: evidence from Japan. *Res. Soc. Stratification Mob.* 28, 215–232.
- Brown, Ryan A., Adler, Nancy E., Worthman, Carol M., Copeland, William E., Jane Costello, E., Angold, Adrian, 2008. Cultural and community determinants of subjective social status among Cherokee and White Youth. *Ethnic. Health* 13, 289–303.
- Burchardt, Tania, 2005. Are one's man's rags another man's riches? Identifying adaptive expectations using panel data. *Soc. Indic. Res.* 74, 57–102.
- Camelo, Lidyane do V., Giatti, Luana, Barreto, Sandhi M., 2013. Subjective social status, self-rated health and tobacco smoking: Brazilian longitudinal study of adult health (ELSA-Brazil). *J. Health Psychol.*, <http://dx.doi.org/10.1177/1359105313490772>.
- Carroll, Christopher D., Summers, Lawrence H., 1991. Consumption growth parallels income growth: some new evidence. In: Bernheim, B.D., Shoven, J.B. (Eds.), *National Saving and Economic Preference*. U. Chicago Press, Chicago, pp. 305–348.
- Chen, M. Keith, 2013. The effect of language on economic behavior: evidence from savings rates, health behaviors, and retirement assets. *Am. Econ. Rev.* 103, 690–731.
- Cooper, Denise C., Milic, Milos S., Mills, Paul J., Bardwell, Wayne A., Ziegler, Michael G., Dimsdale, Joel E., 2010. Endothelial function: the impact of objective and subjective socioeconomic status on flow-mediated dilation. *Ann. Behav. Med.* 39, 222–231.

- Cundiff, Jenny M., Smith, Timothy W., Uchino, Bert N., Berg, Cynthia A., 2013. Subjective social status: construct validity and associations with psychosocial vulnerability and self-rated health. *Int. J. Behav. Med.* 20, 148–158.
- Demakakos, Panayotes, Nazroo, James, Breeze, Elizabeth, Marmot, Michael, 2008. Socioeconomic status and health: the role of subjective status. *Soc. Sci. Med.* 67, 330–340.
- Elder, Glen H., Johnson, Monica Kirkpatrick, Crosnoe, Robert, 2003. The emergence and development of life course theory. In: Mortimer, Jeylan T., Shanahan, Michael J. (Eds.), *Handbook of the Life Course*. Springer, New York, pp. 3–19.
- Franzini, Luisa, Fernandez-Esquer, Maria Eugenia, 2006. The association of subjective social status and health in low-income Mexican-origin individuals in Texas. *Soc. Sci. Med.* 63, 788–804.
- Ghaed, Shiva G., Gallo, Linda C., 2007. Subjective social status, objective socioeconomic status, and cardiovascular risk in women. *Health Psychol.* 26, 668–674.
- Gilbert, Daniel T., Wilson, Timothy D., 2009. Why the brain talks to itself: sources of error in emotional prediction. *Philos. Trans. Roy. Soc.* 364, 1335–1341.
- Goldman, Noreen, Cormann, Jennifer C., Chang, Ming-Cheng, 2006. Measuring subjective social status: a case study of older Taiwanese. *J. Cross-Cult. Gerontol.* 21, 71–89.
- Goodman, Elizabeth, Adler, Nancy E., Daniels, Stephen R., Morrison, John A., Slap, Gail B., Dolan, Lawrence M., 2003. Impact of objective and subjective social status on obesity in a biracial cohort of adolescents. *Obes. Res.* 8, 1018–1026.
- Hagerty, Michael R., Veenhoven, Ruut, 2003. Wealth and happiness revisited – growing national income *does* go with greater happiness. *Soc. Indic. Res.* 64, 1–27.
- Houle, Jason, 2011. The psychological impact of intragenerational social class mobility. *Soc. Sci. Res.* 40, 757–772.
- Hu, Anning, 2014. A loosening tray of sand? Age, period, and cohort effects on generalized trust in reform-era China, 1990–2007. *Soc. Sci. Res.*
- Hu, Peifeng, Adler, Nancy E., Goldman, Noreen, Weinstein, Maxine, Seeman, Teresa E., 2005. Relationship between subjective social status and measures of health in older Taiwanese persons. *J. Am. Geriatr. Soc.* 53, 483–488.
- Inaba, Akihide, Thoits, Peggy A., Ueno, Koji, Gove, Walter R., Evenson, Ranae J., Sloan, Melissa, 2005. Depression in the United States and Japan: gender, marital status, and SES patterns. *Soc. Sci. Med.* 61, 2280–2292.
- Ishida, Hiroshi, 2009. Does class matter in Japan? Demographics of class structure and class mobility from a comparative perspective. In: Ishida, Hiroshi, Slater, David H. (Eds.), *Social Class in Contemporary Japan: Structures, Sorting and Strategies*. Routledge, New York, pp. 33–56.
- Kalleberg, Arne, 2009. Precarious work, insecure workers: employment relations in transition. *Am. Sociol. Rev.* 74, 1–22.
- Kan, Chiemi, Kawakami, Norito, Karasawa, Mayumi, Love, Gayle Dienberg, Coe, Christopher L., Miyamoto, Yuri, et al, 2014. Psychological resources as mediators of the association between social class and health: comparative findings from Japan and the USA. *Int. J. Behav. Med.* 21, 53–65.
- Kessler, R.C., Andrews, G., Colpe, L.J., Hiripi, E., Mroczek, D.K., Normand, S.-L.T., et al, 2002. Short screening scales to monitor population prevalences and trends in non-specific psychological distress. *Psychol. Med.* 32, 959–976.
- Kondo, Naoki, Ichiro Kawachi, S.V., Takeda Subramanian, Yasuhisa, Yamagata, Zentaro, 2008. Do social comparisons explain the association between income inequality and health? Relative deprivation and perceived health among male and female Japanese individuals. *Soc. Sci. Med.* 67, 982–987.
- Kuha, Jouni, 2004. AIC and BIC: comparisons of assumptions and performance. *Sociol. Methods Res.* 33, 188–229.
- Lareau, Annette, 2002. Invisible inequality: social class and childrearing in black families and white families. *Am. Sociol. Rev.* 67, 747–776.
- Leu, Janxin, Yen, Irene H., Gansky, Stuart A., Walton, Emily, Adler, Nancy E., Takeuchi, David T., 2008. The association between subjective social status and mental health among Asian immigrants: investigating the influence of age at immigration. *Soc. Sci. Med.* 66, 1152–1164.
- Link, Bruce, Phelan, Jo, 1995. Social conditions as fundamental causes of disease. *J. Health Soc. Behav.*, S80–S94
- Lundberg, Johanna, Kristenson, Margareta, 2008. Is subjective status influenced by psychosocial factors? *Soc. Indic. Res.* 89, 375–390.
- Marmot, Michael, 2004. *The Status Syndrome*. Henry Holt, New York.
- Netuveli, Gopalakrishnan, Bartley, Mel, 2012. Perception is reality: effect of subjective versus objective socioeconomic position on quality of life. *Sociology* 46, 1208–1215.
- Nobles, Jenna, Weintraub, Miranda Ritterman, Adler, Nancy E., 2013. Subjective socioeconomic status and health: relationships considered. *Soc. Sci. Med.* 82, 58–66.
- Operario, Don, Adler, Nancy E., Williams, David R., 2004. Subjective social status: reliability and predictive utility for global health. *Psychol. Health* 19, 237–246.
- Ostrove, Joan M., Adler, Nancy E., Kuppermann, Miriam, Eugene Washington, A., 2000. Objective and subjective assessments of socioeconomic status and their relationship to self-rated health in an ethnically diverse sample of pregnant women. *Health Psychol.* 19, 613–618.
- Pampel, Fred C., Krueger, Patrick M., Denney, Justin T., 2010. Socioeconomic disparities in health behaviors. *Annu. Rev. Sociol.* 36, 349–370.
- Raftery, Adrian, 1995. Bayesian model selection in social research. *Sociol. Methodol.* 25, 111–163.
- Raymo, James M., Kaneda, Toshiho, 2002. Changes in the living arrangements of Japanese elderly: the role of demographic factors. In: Traphagan, J.W., Knight, J. (Eds.), *Demographic Change and the Family in Japan's Aging Society*. SUNY Press, Albany, pp. 27–52.
- Reitzel, Lorraine R., Mazas, Carlos A., Cofta-Woerpel, Ludmila, Vidrine, Jennifer I., Businelle, Michael S., Kendzor, Darla E., et al, 2010. Acculturative and neighborhood influences on subjective social status among Spanish-speaking Latino immigrant smokers. *Soc. Sci. Med.* 70, 677–683.
- Ross, Catherine E., Mirowsky, John, 2011. The interaction of personal and parental education on health. *Soc. Sci. Med.* 72, 591–599.
- Sakurai, Keiko, Kawakami, Norito, Yamaoka, Kazue, Ishikawa, Hirono, Hashimoto, Hideki, 2010. The impact of subjective and objective social status on psychological distress among men and women in Japan. *Soc. Sci. Med.* 70, 1832–1839.
- Schnittker, Jason, Bacak, Valerio, 2013. A mark of disgrace or a badge of honor? Subjective status among former inmates. *Soc. Probl.* 60, 234–254.
- Schnittker, Jason, McLeod, Jane D., 2005. The social psychology of health disparities. *Annu. Rev. Sociol.* 31, 75–103.
- Singh-Manoux, Archana, Adler, Nancy E., Marmot, Michael G., 2003. Subjective social status: its determinants and its association with measures of ill-health in the Whitehall II study. *Soc. Sci. Med.* 56, 1321–1333.
- Singh-Manoux, Archana, Marmot, Michael G., Adler, Nancy E., 2005. Does subjective social status predict health and change in health status better than objective status? *Psychosom. Med.* 67, 855–861.
- Stone, Douglas, Ziemba, William T., 1993. Land and stock prices in Japan. *J. Econ. Perspect.* 7, 149–165.
- Sugimoto, Yoshio, 2010. *An Introduction to Japanese Society*, third ed. Cambridge Univ. Press, New York.
- Tversky, Amos, Kahneman, Daniel, 1974. Judgment under uncertainty: heuristics and biases. *Science* 185, 1124–1131.
- Uggen, Christopher, Shinohara, Chika, 2009. Sexual harassment comes of age: a comparative analysis of the United States and Japan. *Sociol. Quart.* 50, 201–234.
- Wang, Neng, 2003. Caballero meets Bewley: the permanent-income hypothesis in general equilibrium. *Am. Econ. Rev.* 93, 927–936.
- Wilkinson, Richard G., Pickett, Kate E., 2006. Income inequality and population health: a review and explanation of the evidence. *Soc. Sci. Med.* 62, 1768–1784.
- Wolff, Lisa S., Subramanian, S.V., Acevedo-Garcia, Dolores, Weber, Deanne, Kawachi, Ichiro, 2010. Compared to whom? Subjective social status, self-rated health, and referent group sensitivity in a diverse US sample. *Soc. Sci. Med.* 70, 2019–2028.
- Yang, Yang, 2008. Social inequalities in happiness in the United States, 1972 to 2004: an age-period-cohort analysis. *Am. Sociol. Rev.* 73, 204–226.
- Zimbardo, Philip G., Boyd, John N., 1999. Putting time in perspective: a valid, reliable individual-differences metric. *J. Pers. Soc. Psychol.* 77, 1271–1288.