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Cultural and community determinants of subjective social status among Cherokee and White youth

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Abstract

Background—Subjective social status (SSS) is associated with physical and mental health in diverse samples. However, community, cultural, and ethnic influences on SSS are poorly understood, especially among rural and American Indian populations.

Objective—We aimed to examine similarities and differences in how community poverty, family context, and life course attainment predict SSS among Cherokee and White youth in Appalachia.

Design—We assessed culturally and developmentally appropriate aspects of life course attainment among 344 Cherokee and White youth (age 19–24) using the Life Trajectory Interview for Youth (Brown et al. 2006. *International Journal of Methods in Psychiatric Research*, 15, 192–206). Combined with information regarding community context and family history, these data were used to examine common patterns and ethnic differences in community, family, and cultural influences on SSS.

Results—Overall, both Cherokee and White youth rank their families lower in SSS than previously studied US youth. Family poverty during childhood and low parental education negatively influence family SSS, Cherokee youth rank higher on subjective socioeconomic status (SES) than Whites, as do participants in high poverty areas. However, White youth rank higher on peer SSS. Ethnographically generated items perform better than standard demographic markers in predicting SSS. Educational attainment is associated with peer SSS among Cherokee (but not White) youths.

Conclusions—Cultural identity, community context, and local reference groups are crucial determinants of SSS. Both White and Cherokee youth in Appalachia exhibit SSS rankings consistent with socioeconomic and cultural marginalization. On a local scale, however, living in high poverty areas or minority communities may buffer individuals from some negative social comparisons regarding subjectively perceived SES. Meanwhile, social monitoring in small minority communities may constrain optimistic bias in assessments of peer popularity and status.

Social ecology, family context, and individual attainment appear to exert distinctive influences on SSS across different cultural and ethnic groups.

Keywords

Native American; Appalachia; culture; socioeconomic status; social hierarchy; poverty

Introduction

The observed relationship between position in social hierarchies and health status (reviewed in Adler et al. 1994) has sparked a generation of research that investigates the patterns and processes underlying social disparities in health. Much of this effort has focused on standard metrics of socioeconomic status (SES) (i.e., educational attainment, job status, income, material wealth, etc.) as fundamental determinants of health status through material pathways; that is, toxin exposures, access to healthy foods, access to care, etc. (Evans 2004). However, standard assessments of SES and associated material pathways to health appear to be only part of the story. The Whitehall study (Marmot et al. 1984) brought our attention to the important health effects of locally relevant, subjective comparisons of social status, and recent research confirms that interpretations and perceptions of social position constitute an important link in the relationship between social position and health (Schnittker and Mcleod 2005, Singh-Manoux et al. 2005, Chen and Paterson 2006). The link between these subjective assessments of social status and health is partially mediated by fundamental emotional determinants of stress responses, which are activated by situations that threaten perceived social standing (Gruenewald et al. 2004, Kemeny et al. 2004). Recent neuroimaging research shows how subjective social standing is associated with brain morphology in a region associated with stress reactivity in social situations (Gianaros et al. 2007), providing further biological plausibility for the link between subjective social status (SSS) and health.

Stigmatization contributes to this psychobiological ‘threatened self’ pathway to health outcomes but also exerts effects through independent social processes. For example, stigma induces status loss and negative health effects on labeled, stereotyped, and marginalized groups and individuals (Link and Phelan 2001). Subjective social status (SSS), which has emerged in the last several years as a correlate and predictor of multiple health outcomes (Adler et al. 2000, Goodman et al. 2001, Singh-Manoux et al. 2003, Singh-Manoux et al. 2005), is likely an effective predictor of health outcomes because it captures not only psychobiological impact of feeling comparatively marginalized or socially excluded, but also multiple social and material pathways to negative health outcomes associated with social marginalization and stigma (Link et al. 1997). Thus, while SSS ascertains the impact of internalized perceptions of social status on health via biological stress pathways, its subjective nature also may help capture components of social and material pathways to health outcomes that are decoupled from standard SES markers such as education and income.

In the past decade, the MacArthur SSS ladder (Adler et al. 2000) has been used in populations ranging from urban American youth (Goodman et al. 2003), to Mexican-origin

immigrants (Franzini and Fernandez-Esquer 2006), to aging Taiwanese (Hu et al. 2005). This instrument uses priming cues regarding social reference group and relevant status currencies, and asks respondents to rank their status on a 10-point linear scale associated with an imaginary social ladder. The ability of the MacArthur ladder to predict current and future health status in multiple populations has stimulated recent inquiry into its underlying determinants. Existing research indicates that SSS is associated with standard axes of objective status (i.e., occupational status, income, educational attainment), but is also related to social and material currencies that are less well specified (Singh-Manoux et al. 2003, Singh-Manoux et al. 2005). These underspecified determinants of SSS show broad regional and cultural variability. For example, Hu et al. (2005) found that number of male offspring and automobile ownership more strongly predicted SSS among Taiwanese older adults than did income (unlike previous findings in the USA).

Within a given population, ethnic and subgroup variability in the determinants of SSS is common. For example, Hu et al. (2005) showed that historically dominant cultural groups in Taiwan ranked themselves equivalently or lower than ethnic minorities, despite having higher average resources. They interpret this as evidence of upward social comparison among groups with historical expectations of status dominance. Meanwhile, Franzini et al. (Franzini and Fernandez-Esquer 2006) found that the more time Mexican-origin immigrants spent in the USA, the more likely they were to use USA rather than Mexican social reference groups when assessing SSS. Furthermore, Yip and Adler (2005) found that (when controlling for personal resources), participants who lived in communities with higher poverty ranked themselves higher on personal SSS than those living in wealthier communities. This is consistent with the hypothesis that local social comparison in poorer communities might take some of the 'bite' out of upward social comparison, similar to the buffering or cultural enclave hypothesized to explain the Hispanic health paradox (Vega and Amaro 1994, Franzini et al. 2001).

Little is known about the determinants and patterning of SSS in poor, rural communities in the USA, or among American Indian groups. In this paper, we present data from a population of 344 Cherokee and White Appalachian emerging adults (age 19–24), exploring the local sociocultural determinants and ethnic (Cherokee vs. White) patterning of SSS in a rural setting. To this end, we test the ability of ethnographically derived indices of life course attainment to explain unique variance in SSS among Cherokee and White youth. These indices were developed through 13 months of fieldwork and incorporated into the Life Trajectory Interview for Youth (LTI-Y) (Brown et al. 2006). Given previous findings regarding ethnic variability in the determinants of SSS, we also conduct analyses to assess whether Cherokee and White emerging adults show differences in the patterning and determinants of SSS. Furthermore, we take advantage of geo-coded census tract data on community poverty levels to test whether local variability in community resources creates a locally calibrated 'sliding scale' of social comparison for the determination of SSS.

Methods

Participants

The participants in this study are part of a longitudinal study of families and health, the Great Smoky Mountain Study (GSMS) (Costello et al. 1996). Of the 1420 total GSMS participants, 349 are enrolled members the Eastern Band of the Cherokee Indian – all eligible Cherokee aged 9, 11, or 13 in 1993 who agreed to participate in the study (95% screened, 81% recruited). The remaining 1070 participants are a representative sample of youth living in 12 counties within western North Carolina. Potential participants were selected from the population of some 20,000 children using a household equal probability, accelerated cohort design (Schaie 1965), and were oversampled for risk using a phone-screening interview. A full description of the methods used in GSMS recruitment and data collection can be found in (Costello et al. 1996). The family circumstances (poverty, family stability, residential transitions, etc.) of GSMS participants were assessed every year between the ages of 9 and 16.

This study reports on a sub-sample of 344 GSMS participants interviewed with the LTI-Y when they were between 19 and 24 years of age (Brown et al. 2006). The sample was drawn to create an even distribution of major risk exposures across Cherokee and White males and females, and additional information about the sampling strategy can be found in Brown et al. (2006). The LTI-Y collects extensive information during the transition to adulthood concerning major life course goals, hopes, expectations, and attainment patterns, and taps locally salient aspects of life course achievement for Cherokee and White emerging adults in Appalachia. Combined with the childhood data available on GSMS participants and their families (e.g., income, poverty status, etc.), this allows us to examine how childhood and current economic and life course status determine participants' assessments of SSS along multiple axes, and whether this differs in the White and Cherokee communities.

Family and community context

GSMS participants and their families were interviewed every year between the ages of 9 and 16. During these interviews, the educational attainment of parental figures (which often changed between interviews) was assessed. For the following analyses, spending one or more year with a parental figure who has attained a two or four year college degree will function as the marker of parental educational capital. Between the ages of 9 and 16, 27% of Cherokee and 51% of White youth lived in a household with parental college attainment for one or more year.

Each year between the ages of 9 and 16, parents reported the economic circumstances of the household (income, assets, total number of dependents, etc.), allowing the calculation of whether each household was subsisting above or below the Federal Poverty Line at the time of interview. To model overall childhood exposure to poverty, percent of years that each participant lived below the poverty line during the ages of 9–16 is used. Cherokee participants spent an average of five out of these eight years below the poverty line (59% $\pm$ 4% [SE]), while White participants spent an average of two out of these eight years below the FPL (26% $\pm$ 3% [SE]).

To assess community poverty, participants' addresses from the most recent available interview before the LTI-Y (usually at age 18 or 21) were geo-coded to US census tracts and matched to federal assessments of the percent of households living below the poverty line. White participants lived in census tracts with family poverty rates ranging from 4 to 37%, with a mean of $13\% \pm 0.5\%$ [SE]. Cherokee participants lived in census tracts with poverty rates ranging from 8 to 28%, with a mean of $22\% \pm 1\%$ [SE]. The mismatch between percent years spent in poverty during childhood and percent families in poverty according the US census is partially driven by the establishment of a casino on the Cherokee reservation in 1999. Over the subsequent years, the casino has been associated with the exit of many Cherokee families from federal poverty status.

Participants' personal income range (for the previous year) was also assessed using the LTI-Y. White and Cherokee participants did not report significantly different personal incomes over the past year ($p > 0.1$); median reported income for both populations was \$10,000–15,000, and ranged from a minimum of \$0–5000 to a maximum of \$70,000–75,000.

Life course attainment

Life course attainment for each of the 344 participants was assessed with the LTI-Y, developed by Brown et al. (2006). This instrument was developed through extensive ethnographic work with the local population, which produced an age-relevant, set of items relevant to the major life course concerns and goals of Appalachian youth. The LTI-Y utilizes three broad domains of life (milestones, socioemotional resources, and material goods). K-means cluster analysis revealed an underlying sub-structure of life course goals among GSMS youth. Two clusters were substantively closely related to 'standard' objective indicators of SES: educational attainment (three items) and economic establishment (three items). In addition, two other large clusters contained salient elements of attainment related specifically to the developmental stage and local cultural context of Appalachian youths; material consumption (seven items) and socioemotional resources (10 items); see Table 1.

Subjective social status (SSS)

As the GSMS population was in the midst of the transition to adulthood at the time of the LTI-Y, we followed suggestions from previous research indicating that individuals at this developmental stage use more than one frame of reference when assessing SSS (Goodman et al. 2001). Thus, the LTI-Y assesses subjective SES for family of origin (family SSS), subjective personal SES in national context (national SSS), and personal social status when compared to peers (peer SSS). All SSS questions employed a 10-point, self-anchoring ladder scale (Goodman et al. 2001). With a subset of 18 participants from this subpopulation of Appalachian youth from GSMS, two week test–retest reliability on all three versions of the MacArthur ladder was adequate to good (Brown et al. 2006), similar to previous findings of test–retest reliability in SSS among youth (Goodman et al. 2001).

Wording of the ladder anchors and general instructions follow the format of previous MacArthur ladder instruments with slight alterations to match the local cultural context. To assess subjective SES for the participant's the family of origin, participants were asked: 'Imagine that this ladder pictures how American society is set up. At the top of the ladder

are the people who are the best off, those who have the most money, most education, and best jobs. At the bottom are the people who are the worst off, those who have the least money, least education, and worst jobs or no job. Now think about the household you grew up in. This might or might not be with your parents. Please tell us where you think that household would be on this ladder.' The mean ranking for family of origin SSS (hereafter referred to as family SSS) was 5.42 ± 0.15 [SE].

To assess subjective SES for the participant's own life, we asked: 'Now imagine this is the same ladder. It pictures how American society is set up. Like before, at the top of the ladder are the people who are the best off, those who have the most money, most education, and best jobs. At the bottom are the people who are the worst off, those who have the least money, least education, and worst jobs or no job. Now just think about you, regardless of your parents or the household you grew up in. Please tell us where you think you are on this ladder.' The mean ranking for national SSS was 5.15 ± 0.09 [SE].

Finally, to assess personal SSS with respect to peers, we asked: 'Now assume that the ladder is a way of picturing people your age. At the top of the ladder are the people your age with the most respect and the highest standing. Everyone wants to hang out with them. At the bottom are the people your age who no one respects and have the lowest standing. Nobody wants to hang out with them. Where would you put yourself on this ladder?' The mean ranking for peer SSS was 7.24 ± 0.08 [SE].

Hypotheses

Both Cherokee and Whites in Appalachia are economically and socially marginalized with respect to the rest of the USA (Wray and Newitz 1997). Levels of poverty are higher and educational attainment is lower in the rural South compared with the USA on average (Dalaker 2001, Bauman and Graf 2003). Furthermore, Appalachian youth in the region (both Cherokee and White) perceive themselves to be on the social margins of mainstream USA society, which is generally portrayed in popular media as centered in urban and suburban communities in the Northeast or West rather than the South. These feelings of stigma and marginalization are unsurprising, given the active cultural production of stigma and difference in this region (Batteau 1990), as well as the systematic exploitation and marginalization of both White and Cherokee human capital throughout USA history (Dunaway 1996). An earlier study found that residence in rural regions of the Appalachians predicted lower subjective SES over and above household income (Billings 1974). Most previously studied groups score higher than the mean on SSS, but we did not expect this to be the case with either Cherokee or White youth. Thus, we predicted that both Cherokee and White participants would rank their family SSS lower than previously studied, mostly White youth, who were children of participants in the Nurse's Health Study (H1), and reported an average national SSS rank of 7.2 on a 10-point scale (Goodman et al. 2001).

In addition to this overall patterning, we expected regional variation in childhood experiences of poverty and the educational status of parental figures to affect ratings of origin household SSS during emerging adulthood. Specifically, we expected longer experiences of family poverty during the ages of 9–16 to negatively affect origin family SSS, and parental figure educational capital to exert a positive effect (H2).

Despite overlapping experiences of regional and economic marginalization and stigma, Cherokee and Whites in Appalachia also have unique histories of exploitation and cultural identities (Dunaway 1996). We predicted that these social and historical processes would lead to different effects on national and peer SSS. Due to higher levels of poverty and ethnic discrimination, we expected national SSS rankings among Cherokee youth to be lower than White SSS rankings (H3). Meanwhile, ethnographic research indicates the presence of ethnic pride and social solidarity among Cherokee youth. In comparisons with peers (which may include Whites due to overlapping school attendance), we expected such community processes to lead to comparatively higher peer SSS rankings among Cherokee than Whites (H4).

Appalachian emerging adults are both at a transitional developmental stage (Arnett 2000) and are part of a local cultural context that emphasizes certain aspects of material and social attainment (which may or may not be unique to this region of the country). As a result, we expected the age-relevant, ethnographically derived indices of material and social attainment to explain unique variance in SSS above and beyond the more traditional adult markers of education, income, etc. (H5).

Previous research has found a positive impact of community poverty on individual subjective status, controlling for attainment. This is likely to be due partially to a 'sliding scale' of local social comparison, whereby the same resources 'buy' more subjective status in poorer communities. Controlling for individual attainment, we predicted that participants living in high poverty areas would rank themselves as having higher national SSS, due to this phenomenon of local social comparison (H6). Finally, we expected the higher social connectedness and ethnic identity among Cherokee to render socioemotional attainment among Cherokee a more salient predictor of national and peer SSS than among Whites (H7).

Analytic strategy

As outcome variables, all three forms of SSS (family, national, and peer) were normally distributed (Shapiro-Francia tests, $p > 0.1$), and so all hypotheses are tested with standard parametric statistics – t-tests and ordinary least squares regression, using STATA 9.2 (Statacorp 2005). Hypotheses 1, 3 and 4 concern either group differences or difference from a hypothetical mean in national and peer SSS, and are tested with two-tailed t-tests. Hypothesis 2 concerns the determinants of origin family SSS, and is tested via simple linear regression. Hypotheses 5 and 6 concern unique additive variance explained by 'non-standard' predictors of national SSS (ethnographically generated life course attainment items, community poverty); these hypotheses are tested via hierarchical regression using blocks of variables added sequentially. Hypothesis 7 concerns the relative contribution of socioemotional resources in explaining variance in national and peer SSS among Cherokee and White youth, and is tested via linear regression stratified by ethnicity (run for both national and peer SSS).

Due to the oversampling design for the original GSMS White population, analyses were run with both weighted and unweighted data. Using weights did not change the patterning or statistical significance of results. Given thus, the fact that sample weights were designed for

the original GSMS sample (and not this sub-sample), and the ability to run more statistical and diagnostic tests without weighting, results with unweighted data are reported below.

Results

Pairwise correlations among predictor variables indicate that the greatest concern with multicollinearity surrounds the correlation between reported last year's income and the ethnographically generated indices of material success – economic establishment (first house, financial security, etc.) and material consumption (fancy car, entertainment center, etc.) (Table 2).

Patterns and determinants of family SSS: H1–H2

The sample mean for family SSS was 5.42 ± 0.14 [SE]. This was found to be significantly lower than the mean of 7.2 ($p < 0.0001$, t-test) found among a population of mostly white youth involved in the Nurses Health Study II (Goodman et al. 2001), providing supportive evidence for Hypothesis 1.

Hypothesis 2 predicts that Appalachian youth will draw upon childhood experiences of family poverty and parental educational attainment to rank their households of origin. To test this hypothesis, we regressed these two variables (number of years spent beneath the Federal Poverty Line between ages 9 and 16, and whether either primary parent had attained a college degree) on origin household SSS. Both of these measures of childhood experience showed significant associations in the expected direction with household SSS. Together, these two variables predicted 14% of the variance in SSS for origin households (see Table 3).

Ethnic differences in national and peer SSS: H3–H4

Hypotheses 3 and 4 concern Cherokee–White differences in national and peer SSS. Given dominant historical and economic status, we expected Whites to rate themselves more favorably than Cherokee on a national scale of SSS (H3). However, the opposite was found. Whites rated themselves significantly lower (mean = 4.87 ± 0.11 [SE]) than Cherokee (mean = 5.54 ± 0.15 [SE]); $p = 0.003$, two-tailed t-test. Given greater Tribal identity and community solidarity, we expected Cherokee youth to rate themselves higher on peer subjective status than Whites (H4). Here too, the reverse was found; Cherokee youth rated themselves significantly lower than White youth (6.88 ± 0.13 [SE]) than Whites (7.47 ± 0.10 [SE]); $p = 0.004$, two-tailed t-test).

Ethnographically derived determinants of national and peer SSS: H5

Hypothesis 5 concerns the ability of ethnographically derived, locally culturally salient markers of life course attainment to explain unique variance in SSS (beyond the ‘standard’ indicators of income, educational attainment, etc.). To test this hypothesis, hierarchical linear regressions were performed. The first model included only the more ‘standard’ markers of socioeconomic position (income, educational status, and the cluster of items contained within ‘economic establishment’ – first house, permanent job/career, and financial security). Model 2 added two ethnographically generated indices of life course attainment –

material consumption (containing several locally salient markers of material consumption and wealth), and socioemotional resources (containing a mixture of locally salient social and emotional items) (Table 4).

In the first model, 'traditional' markers of SSS (income, educational attainment, and economic establishment) explained 6% of the variance in national SSS and 5% of the variance in peer SSS. In Model 2, with the second block of variables added (material consumption and socioemotional resources), 12% of the variance in national SSS and 9% of the variance in peer SSS was explained. The Fisher F-values associated with entering the second block of variables were 11.49 (national SSS) and 3.4 (peer SSS), and the observed Beta level for additional variance explained was significant ($p < 0.01$) for national SSS, and marginal ($p < 0.1$) for peer SSS (Soper 2007) (Table 5).

Community and ethnic variation in determinants: H6–H7

Hypothesis 6 concerns the effect of local social comparison in explaining individual rankings on national SSS. It predicts that individuals living in higher poverty areas will rank themselves higher on national SSS than participants in wealthier areas (when controlling for individual attainment), due to the lower average attainment level of others in the immediate area and resultant impacts on self-assessment. For national SSS, community poverty was a significant predictor in the expected direction (participants from higher poverty areas ranked themselves higher on national SSS), and explained an additional 7% of variance (see Table 4, Model 3). The Fisher F-value associated with entering community poverty was 4.78, and the observed Beta level for additional variance explained was significant at $p < 0.01$. For comparative purposes, the same analysis was run with peer SSS (see Table 5, Model 3). Unexpectedly, community poverty was a significant predictor in the opposite direction (individuals from higher poverty areas ranked themselves lower on peer SSS). However, Beta tests for additional variance explained in peer SSS by community poverty were non-significant (Soper 2007).

Hypothesis 7 predicts that Cherokee youth will place a greater emphasis on socioemotional attainment when ranking themselves both peer and national SSS. To test this, a hierarchical linear regression was performed separately for Cherokee and Whites, using the full model of individual-level predictors (income, education, economic establishment, material consumption, and socioemotional resources) to predict national and peer SSS. Socioemotional resources had a higher standardized Beta among Cherokee than Whites with regard to national SSS (see Table 6), but an interaction between ethnicity and socioemotional resources (not shown) was not statistically significant.

Hypothesis 7 also predicts that socioemotional resources will be a stronger predictor of peer SSS among Cherokee than Whites. To test this, a parallel analysis was run with peer SSS (results for the full sample are also shown). While socioemotional resources did not show a significantly different Beta coefficient among Whites, there were other notable differences by ethnicity. Specifically, the entire regression equation is non-significant for Whites, and predicts 18% of the variance among Cherokee. Among Cherokee youth, the strongest predictor is educational status, which explains 13% of the variance in peer SSS (see Table 7). Although not pictured, regression analyses using the interaction between ethnicity and

education as a predictor of peer SSS found this to be a statistically significant predictor ($p=0.002$).

Discussion

This study analyzed data on SSS among Cherokee and White emerging adults in Appalachia along multiple axes of social comparison (household of origin, self on a national scale, self among peers). We took a contextual and cultural–historical approach to SSS, making predictions about reporting patterns linked to the developmental stage, regional history, and ethnic identity of the participants involved in the study.

Following our predictions, Appalachian youths appeared to have internalized experiences of childhood exposure to poverty and parental educational attainment, effecting their ratings of SSS for household of origin several years later. Whether this represents an internalized developmental impact or is simply a result of stability in parental circumstances through time, however, is not clear.

On a national scale, SSS was significantly lower than a previously studied urban population (Goodman et al. 2001), providing support for the hypothesis that regional economic and cultural stigmatization have been internalized by Appalachian youth. With different historical trajectories (Dunaway 1996) and current social opportunities and constraints, the specific form and content of this stigma certainly differs between Cherokee and White populations, but the end result (in terms of SSS) seems to be quite similar. Meanwhile, despite having a cultural and community history of discrimination and poverty, Cherokee youth ranked themselves higher than Whites on national SSS. It may be that the Cherokee reservation and territories (a relatively small area where most Cherokee live) function as a kind of ‘social comparison enclave,’ whereby local standards of social comparison are functioning, even when asked to make comparisons with the US as a whole. In essence, then, the dual processes of ethnic identification and the ‘sliding scale’ effect of local social comparison may help buffer the psychological impact of stigma.

If such ‘sliding scale’ effects were operating, the local impact of higher levels of poverty and lower educational attainment on the reservation would lessen the impact of upward social comparison with a hypothetical national ladder of SSS. This interpretation is supported by the evidence of area effects on national SSS, in that participants living in high poverty areas ranked themselves higher on national SSS (after controlling for the effects of individual attainment). Indeed, a separate regression analysis and Sobel–Goodman test (not shown) indicates that the positive effects of Cherokee ethnicity on national SSS are mediated largely (an estimated 69%, $p<0.01$, with all predictors added to the model) by the fact that Cherokee live in higher poverty areas than Whites (Soper 2007). Furthermore, living in high poverty areas was a significant predictor of higher national SSS (controlling for attainment) in separate regression analyses (not shown) run separately for Cherokee and White youth. It is possible that Cherokee are additionally protected from social comparison with outside groups by a sense of ethnic identity and pride, although the absence of an ethnic identity measure in this study makes it difficult to test this hypothesis against the impact of area-level variation in poverty levels. Furthermore, it is possible that the social services

provided to Cherokee youth (access to medical care, college scholarships, etc.) contribute to relatively higher rankings on national SSS.

Because we sampled the relevant population in this case (peers), a ‘true’ assessment of popularity or social centrality should yield a mean of 5.0. However, the mean ranking for the sample on the peer SSS scale was 7.2, exhibiting the same kind of optimistic bias shown in other young US samples (Goodman et al. 2001, Goodman et al. 2003). It may be that location within minority communities in bounded geographical areas limits optimistic bias in self-assessments of peer status. Cherokee youth, who live in closer geographical proximity than Whites in Appalachia (and, who based on qualitative observations, exhibit more social monitoring), reported lower average peer SSS than Whites.

Following our expectations, the ethnographically generated indices of life course attainment developed specifically for this sample and age group (material goods and socioemotional resources) explained unique variance in SSS. Generally, effects for socioemotional resources were stronger and more robust, and evidence for added variance explained by both indices was stronger for national than peer SSS. Especially among emerging adults, it may be particularly important to assess ‘non-standard,’ ethnographically assessed currencies of social status that are most relevant to youth during this developmental period.

Research on the determinants of SSS in China (Yip and Adler 2005) found that individuals in high poverty areas ranked themselves slightly higher on subjective status than those in wealthier areas. This was interpreted as evidence of relaxed local social comparison. This study found similar effects for national SSS. Such effects were not expected for peer SSS, and indeed a small effect (not explaining a unique portion of variance) was found in the opposite direction (higher poverty area, lower peer SSS).

In stratified analyses, we predicted that Cherokee would pay more attention to socioemotional attainment when ranking themselves on national and peer SSS. This prediction received tentative but inconclusive support from statistical analysis. In comparative stratified analyses of peer SSS, one unexpected result was the inability to explain variance among Whites, relative to Cherokee. A likely explanation for higher predictive success in accounting for peer SSS among Cherokee is that our sample of Cherokee comes close to the universe of Cherokee peers; at initial recruitment of the GSMS sample, all Cherokee of appropriate age for the sample were contacted. In contrast, the White sample is dispersed across 11 counties. This geographical and social distance creates significantly less opportunity within the sample for direct social comparison or the formation of cohesive agreement regarding determinants of peer SSS among Whites. The results might be similar to Cherokee if Whites were sampled from a similarly conscribed social and geographical area.

Another unexpected result was the strong association between educational attainment and peer SSS among Cherokee, particularly given historically low rates of educational attainment among American Indians (Bauman and Graf 2003). While the unexpected results of a regression with a small number of cases must be interpreted cautiously, this potential

evidence of increasing cultural acceptance and value placed on education as a salient life goal among Cherokee emerging adults merits further exploration.

Two main lessons can be learned from this analysis of SSS among Appalachian youth. The first is that careful ethnographic development of developmentally and locally culturally appropriate forms of attainment can help reveal underlying currencies that individuals use to compare themselves to others and to subjectively infer their social standing. This may be particularly true for emerging adults, who have not yet entered the world of formal institutions that adults inhabit. In this case, ethnographic work revealed that Appalachian youth found certain aspects of material consumption and also a variety of social and emotional properties were highly salient aspects of social standing (Brown et al. 2006). Previous research on the social and psychological world of emerging adults has demonstrated the importance of 'process-oriented' goals, such as the 'life experiences' item included in socioemotional resources (Arnett 2000). This study cannot determine the degree to which these items are effective predictors of SSS due to their regional/cultural nature or to their relevance to the developmental stage of emerging adults. Similar studies with emerging adults in other regions (and of other ethnicities) would help answer this question. Secondly, this study provides evidence for the importance of local community context assessments of SSS. Participants living in higher poverty areas seem to be somewhat buffered from upward comparison when they ranked themselves on a national scale of SSS. This echoes results found in rural China (Yip and Adler 2005). Importantly, this contextual influence of community poverty helps to account for the fact that Cherokee youth rank themselves higher on national SSS than did Whites. Meanwhile, the determinants of peer SSS were much clearer within a sample drawn from a smaller social universe (the Cherokee reservation) than a sample of Whites drawn from several counties. This is not surprising, given that participants from a more encapsulated social context are more likely to use similar axes and levels of attainment to judge themselves and others.

Evidence from cross-cultural and ethnically diverse samples indicates that local social settings moderate the assessment of local social status. Among older adults in Taiwan, number of male sons contributes to SSS rankings (Hu et al. 2005). In rural Appalachia, emerging adults use both markers of age-appropriate material consumption (i.e., a large house or expensive car) and self-judgments of social and emotional attainment appropriate to the local context and to their developmental stage (i.e., family connections, respecting elders, having goals, being honest). This local determination of SSS has implications for both regional and ethnic variability in perceived social status and its health effects.

Evidence continues to mount that SSS represents an important pathway to diverse health outcomes, ranging from vulnerability to infection (Cohen et al. 2007) to obesity (Goodman et al. 2003), and with specific neural correlates lending biological plausibility to these health pathways (Gianaros et al. 2007). However, the upstream social, psychological, and ecological determinants of these pathways appear to be quite complex and heterogeneous. Among such upstream determinants and factors, regional and ethnic variation figure heavily. For a basic outline of pathways to health, it is enough to know that SSS is involved in the causal pathway between social position and health. However, efforts to more fully understand and eventually intervene in these pathways will be aided by investigations of the

local social, cultural, and psychological processes by which individual judge their position within and beyond their local communities.

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Table 1

Life course attainment indices and items.

Index	Items (% of sample reporting attainment of each item)
Education	High school degree/GED (86); College/technical/vocational degree (18); Higher education [some college] (53)
Economic establishment	First house (19); Career/permanent job (26); Financial security (50)
Material consumption	Recreational vehicles (24); Big/nice house (13); Expensive sports/hobby equipment (45); Fancy/expensive vehicle (22); Home entertainment center (56); Jewelry (53); Nice clothes (87)
Socioemotional resources	Honest/responsible/polite (94); Common sense/think for yourself (98); Determination/motivation/drive (88); Passion/focus (78); Health/fitness (76); Self-esteem (80); Life experiences (65); Plan ahead/have goals (87); Respect elders/know cultural roots (90), Family support/family time (90)

Note: Whites reported slightly higher attainment of socioemotional resources ($p < 0.01$) than Cherokee, with a mean difference of approximately one item (out of 10). No other indices showed significant ethnic differences in attainment levels.

Table 2

Pairwise correlations, predictor and outcome variables.

	Family poverty	Parental education	Personal income	Education ^a	Economic establishment	Material consumption	Socioemotres oures	Census poverty	Family SSS	National SSS	Peer SSS
Family poverty	1										
Parental education	-0.363*	1									
Personal income	0.022	-0.108	1								
Education ^a	-0.27*	0.187*	0.047	1							
Economic establishment	0.011	-0.056	0.464*	0.128	1						
Material consumption	-0.048	-0.077	0.457*	0.138	0.348*	1					
Socioemotres oures	-0.129	0.028	0.118	0.265*	0.201*	0.254*	1				
Census poverty	0.309*	-0.208*	0.056	-0.042	-0.012	0.022	-0.102	1			
Family SSS	-0.361*	0.264*	-0.096	0.074	0.026	0.036	-0.027	-0.015	1		
National SSS	0.113	-0.088	0.171	0.074	0.237*	0.256*	0.258*	0.250*	0.176	1	
Peer SSS	-0.107	0.031	0.025	0.222*	0.118	0.19*	0.248*	-0.146	0.082	0.161	1

^a Refers to personal attainment of education. This and the following three variables are indices of personal life course attainment (see Table 1).* $p < 0.05$, Bonferroni-corrected.

Table 3Linear regression, family subjective social status ($n=344$).

OLS coefficients (standard error)	
Family poverty	-1.21(0.21) ***
Parental education	0.51(0.18) **
Adjusted r -squared	0.14
F	29.08 ***

**
 $p < 0.01$,

 $p < 0.001$.

Table 4

Hierarchical linear regression, national subjective social status.

	Model 1 (<i>n</i> =343)	Model 2 (<i>n</i> =341)	Model 3 (<i>n</i> =335)
OLS coefficients (standard error)			
Personal income	0.06(0.04)	0.01(0.04)	0.01(0.04)
Education	0.28(0.30)	0.09(0.30)	−0.04(0.10)
Economic establishment	1.16(0.35) **	0.80(0.35) *	0.82(0.33) *
Material consumption		1.53(0.56) **	1.35(0.54) *
Socioemotional resources		2.14(0.57) ***	2.49(0.55) ***
Census tract poverty			5.89(1.10) ***
Adjusted <i>r</i> -squared	0.06	0.12	0.19
<i>F</i>	8.58 ***	10.43 ***	14.22 ***

*
 $p < 0.05$,**
 $p < 0.01$,***
 $p < 0.001$.

Table 5

Hierarchical linear regression, peer subjective social status.

	Model 1 (<i>n</i> =344)	Model 2 (<i>n</i> =341)	Model 3 (<i>n</i> =335)
OLS coefficients (standard error)			
Income	−0.03(0.04)	−0.07(0.04)	−0.06(0.04)
Education	0.99(0.27)***	0.71(0.27)**	0.26(0.09)***
Economic establishment	0.55(0.32) [†]	0.29(0.31)*	0.31(0.32)
Material consumption		1.13(0.51)**	1.26(0.51)*
Socioemotional resources		1.68(0.51)**	1.47(0.52)**
Census tract poverty			−2.32(1.04)*
Adjusted <i>r</i> -squared	0.04	0.09	0.11
<i>F</i>	6.31***	7.74***	7.66***

[†]
p<0.1,*
p<0.05,**
p<0.01,***
p<0.001.

Table 6

Linear regression, national subjective social status (stratified by ethnicity).

	White (<i>n</i> =204)	Cherokee (<i>n</i> =140)
OLS coefficients (standard error)		
Income	0.02(0.05)	−0.01(0.07)
Education	0.09(0.35)	−0.12(0.53)
Economic establishment	0.74(0.41) [†]	0.82(0.59)
Material consumption	1.50(0.65) [*]	1.45(0.97)
Socioemotional resources	1.85(0.72) [*]	3.36(0.89) [*]
Adjusted <i>r</i> -squared	0.13	0.15
F	6.94 ^{***}	5.64 ^{***}

[†] *p*<0.1,

^{*} *p*<0.05,

^{***} *p*<0.001.

Table 7

Linear regression, peer subjective social status (stratified by ethnicity).

	White (<i>n</i> =204)	Cherokee (<i>n</i> =140)
OLS coefficients (standard error)		
Income	−0.02(0.05)	−0.10(0.06) [†]
Education	0.11(0.34)	1.65(0.45) ^{***}
Economic establishment	0.27(0.40)	0.06(0.50)
Material consumption	0.79(0.64)	1.63(0.82) [†]
Socioemotional resources	1.33(0.72) [†]	1.57(0.72) [*]
Adjusted <i>r</i> -squared	0.02	0.18
<i>F</i>	1.84	7.00 ^{***}

[†]
p<0.1,

^{*}
p<0.05,

^{***}
p<0.001.