Measuring subjective social status:

A case study of older Taiwanese

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Abstract

Despite widespread use of measures of social status and increasing interest in the relationship between social status and health, variables used to denote social status are often inappropriate for older populations. This paper examines responses to a recently developed measure of subjective social position, known as the MacArthur Scale of Subjective Social Status. The instrument asks respondents to use 10 rungs of a ladder to position themselves socioeconomically relative to other people in their country and, separately, in their community. These questions were incorporated in a recent national survey of middle-aged and older adults in Taiwan. The objective of the analysis is to gain a better understanding of how such subjective assessments are formed – i.e., to explore the contribution of social, economic, and cultural factors in the determination of position within a social hierarchy – and to assess the potential utility of the ladder instrument in social science and health research. Results from Taiwan are compared with those derived from subjective measures of social status in Western populations. The findings support use of this instrument as a measure of subjective social status for an older population and suggest that it may provide further insights into the social gradient in health.

Introduction

Researchers have had a long-standing interest in such related concepts as social status, social position, social class, and socioeconomic status (SES). Indeed, operationalization of these terms has generated some of the most frequently used variables in the social, behavioral and health sciences (Ekehammer et al. 1987; Liberatos et al. 1988). Despite lack of agreement among scholars on the precise definition of these concepts, the resulting measures are frequently classified in two groups. The first comprises objective measures, most notably education, income and occupation – the three most frequently used variables to denote SES. Objective measures are typically well-specified, readily available, and used in a broad range of disciplines. The second category comprises subjective measures, such as social class, which have been used primarily by sociologists and relate to individuals' perceptions of their social position within a hierarchy (Jackman & Jackman 1973).

Research interest in the use of measures of social position shows no signs of abating, particularly in light of the increased attention being focused on linkages between social position and the health and well-being of populations. Indeed, during the past decade or two, a myriad of studies in the U.S. and elsewhere have shown that better social position is strongly associated with lower mortality and better health at all levels of SES. The resulting "social gradients" in health are thought to arise via numerous complex and interrelated pathways through which, for example, higher education improves access to information, increases compliance with medical advice, and deters unhealthy behaviors; income and wealth provide resources for better diets, health insurance and higher quality health care services; and higher occupational status results in fewer

psychosocial stressors and environmental risk factors in the workplace (Adler 1999; Goldman 2001; Preston and Taubman 1994).

Although past research on social inequalities in health has concentrated on younger and middle-aged people, the aging of the population worldwide underscores the importance of examining health inequalities among older adults and the volume of research targeted toward this segment of the population has increased (Grundy & Holt 2001). This research trajectory has, in turn, created a conundrum: many of the most frequently used measures of social position are less meaningful or more difficult to ascertain for older persons.

Measurement of income and occupation is particularly problematic for the older segment of the population. Many older adults are likely to be partially or completely out of the labor force and to be drawing financial assistance from numerous sources, including government transfers, family members and private pensions. The situation is likely to be even more complex for women than men, particularly in newly industrialized countries that offered few educational and employment opportunities for women several decades ago. For example, many older women in East Asian societies are illiterate and have never worked outside the home or family farm, despite the fact that their spouses and children may be relatively well-off according to conventional indicators. In these societies, as well as in other populations, social scientists have frequently resorted to using the husband's education or occupational status in an effort to obtain a meaningful assessment of the woman's social position (Cornman et al. 2003; Hermalin et al. 2002). In short, in many societies, traditional objective measures of SES are unlikely to capture the many nuances that underlie an older person's social position, suggesting that

subjective measures may offer greater insights than conventional variables into social inequalities.

The focus of this paper is on a recently developed instrument of subjective social status – the MacArthur Scale of Subjective Social Status – that was designed to address limitations of earlier measures for examining social disparities in health. The essential feature of this measure is that it asks respondents to use the visual aid of a 10-rung ladder to position themselves socioeconomically relative to other people in their society. During the late 1990s, the MacArthur Scale was incorporated into several surveys of adolescent and women's health in the U.S. as well as into Phase V of the Whitehall II study, a survey of civil servants in London (Adler et al. 2000; Goodman et al. 2001; Singh-Manoux et al. 2003). A slightly modified set of questions was also implemented in a national survey in Taiwan that sampled middle-aged and elderly respondents in 2000 (Goldman et al. 2003).

The few analyses that have been carried out with these data have focused on the associations between the ladder responses and various measures of mental and physical health (Adler et al. 2000; Goodman et al. 2001; Hu et al. 2004; Ostrove et al. 2000; Singh-Manoux et al. 2003). Less attention has been given to understanding the factors that underlie individuals' assessments of their subjective status, although two studies have explored the association between the ladder responses and conventional indicators of SES (Ostrove et al. 2000; Singh-Manoux et al. 2003). Data from the Taiwan study will fill this gap by examining the ladder question in a non-Western population as well as by using a population-based sample of older adults.

More generally, the objective of this paper is to evaluate the potential utility of the ladder instrument as an indicator of social position for an older population. As part of this assessment, we examine the distribution and correlates of responses to the ladder questions in Taiwan and compare findings with those derived from studies of subjective social status in Western populations, which are based primarily on working-age adults. By revealing the types of social, economic, and cultural factors that influence how Taiwanese assess their social position relative to others, the results offer insights into the strengths and weaknesses of the ladder instrument and its potential application in diverse social and cultural settings as well as to a broad age range. The findings also provide new information about the social position of older adults in a non-Western population.

In the following section, we summarize earlier research pertaining to measures of subjective social status and their determinants. Next, we provide some background information on Taiwanese society that justifies our examination of social and cultural factors as potential determinants of subjective social status. Subsequently, we describe the data, measures and analytical strategy used to identify variables that appear to influence respondents' subjective assessments of social status in Taiwan. In the final sections of the paper, we present the findings and discuss their implications both for our understanding of the factors that influence people's assessments of their social standing and for future applications of the ladder instrument.

Subjective social Status and its determinants

Sociologists have had a long-standing interest in measuring subjective social status, most commonly subjective *class* identification. Based on Centers' early research

on social class identification (Centers 1949), respondents in numerous surveys have been asked to place themselves into a small number of categories, typically lower class, working class, middle class, and upper class (Hodge & Treiman 1968; Jackman & Jackman 1973; Kluegel et al. 1977; Kourvetaris & Dobratz 1984). The majority of these studies have focused on Western populations, although there are exceptions (e.g., Kikkawa 2000 for Japan; Marsh 1996 for Taiwan).

Numerous studies have used these data to assess the strength of the relationship between objective and subjective status. In addition to the standard measures of socioeconomic status – occupation or occupational prestige, income and education of the respondent – studies have examined other socioeconomic variables, such as assets, relationship to the means of production, and union membership, as well as the socioeconomic status of the respondent's spouse and friends (Baxter 1994; Davis & Robinson 1988; Hodge & Treiman 1968; Jackman & Jackman 1973; Kourvetaris & Dobratz 1984; Simpson et al. 1988). Although the focus of this line of research has been on socioeconomic indicators, some studies have explored other potential correlates of class identification, particularly race (Hodge & Treiman 1968; Jackman & Jackman 1973).

Findings from several decades of research on this topic suggest that variables such as occupation, income, education, and ownership of capital are typically significant predictors of respondents' assessments of their class position. Nevertheless, most investigations have found that the overall explanatory power of these variables is modest at best (Goyder 1975; Hodge & Treiman 1968; Jackman & Jackman 1973; Kluegel et al. 1977).

More recently, there have been several attempts to use visual scales instead of designated classes to assess subjective social status (Evans et al. 1992; Kelley & Evans 1995). Kelley and Evans (1995:163) use an abstract question regarding groups "which tend to be towards the top and groups which tend to be towards the bottom" along with a 10-point scale – depicted by 10 boxes aligned in a column with the top and bottom boxes labeled accordingly – to assess respondents' placement of their social position within six Western countries (the U.S., Great Britain, Australia, Switzerland, Austria and Germany). Consistent with earlier research, Kelley and Evans (1995) conclude that the linkages between objective and subjective social status are relatively weak.

A newly developed measure of subjective social status, known as the MacArthur Scale of Subjective Social Status, has been implemented in several surveys in the U.S. and England (Adler et al. 2000; Goodman et al. 2001; Ostrove et al. 2000; Singh-Manoux et al. 2003). This measure asks respondents to place themselves within the social hierarchy of their society (or the United States) by using a ladder with 10 numbered rungs (9 rungs in Ostrove et al. 2000). The ladder was adapted from one used by Cantril (1965) to measure an entirely different type of outcome – personal aspirations.

In some of the surveys noted above, a separate question asks respondents to place themselves within the social hierarchy of their *community*. A similar set of two questions – one referring to Taiwan and one to the respondent's community – was included in a national survey fielded in Taiwan in 2000. The use of two questions rather than a single question stems from the conjecture that respondents' evaluations of their position may depend upon their frame of reference – e.g., the entire society vs. a more local group or a set of peers (Goodman et al. 2001).

Both the ladder and the similar 10-box display used by Kelley and Evans (1995) were designed to overcome several serious limitations of the traditional class identification measures. Specifically, the abstract questions embodied by these visual tools are more comparable across cultures than the traditional questions, avoid forcing respondents to choose one of several specified categories that may fail to capture the full spectrum of social stratification, and eliminate such highly politicized terms as "working class" and "middle class" (Goodman et al. 2001; Kelley & Evans 1995). The few findings to date that have examined the association between objective measures of social position and the ladder responses are consistent with results based on earlier measures of subjective status: conventional indicators of SES, such as education, occupation, income, are significant predictors of the subjective assessments (Ostrove et al. 2000; Singh-Manoux et al. 2003), although results from Ostrove et al. (2000) suggest that the importance of these correlates varies by race in the U.S.

Social status in Taiwan

Historically, social status distinctions in Taiwan fell largely along ethnic lines, primarily as a consequence of Taiwan's history as a colonized nation (Gates 1981). The vast majority of early settlers on Taiwan were Hoklo or Fukienese, coming from the southern Fukien province of China, whereas a smaller portion were Hakka, arriving from the eastern Kwangtung province (Lamley 1981). These two groups experienced frequent conflicts over land settlement and were distinguished by their mutually unintelligible dialects (Tsai 1992). Under Japanese rule (1895–1945), however, conflict between the

Fukienese and the Hakka diminished and the two groups became jointly referred to as Taiwanese.

During the Japanese occupation, Taiwan experienced significant social and economic change. The Japanese are credited with creating transportation, communication and education systems; investing in public health measures; and forming major business institutions and commercial centers in Taiwan (Hermalin et al. 1994; Tsai 1992). However, they also limited the economic and educational opportunities of the Taiwanese, imposed strict public order at all levels of government and made Japanese the official language. As a result, the Japanese dominated the high-ranking positions and the Taiwanese were relegated to lower posts, thereby creating a society that was stratified into two classes – the ruling Japanese and the ruled Taiwanese (Gates 1981; Yanaihara 1929; Tsai 1992).

At the end of World War II, Taiwan was ceded back to China and, after the Communist victory on the mainland in1949, the Kuomintang (KMT or Nationalist) government took control of the island. During the next few years, approximately one million Nationalist military and civilian supporters migrated to Taiwan. This group of migrants (and their offspring) became known as Mainlanders who now constitute the third major ethnic group in Taiwan. Subsequent to their arrival, Mainlanders assumed the high-ranking posts vacated by the Japanese and designated Mandarin as the official language, thereby forcing the relatively uneducated Taiwanese majority to learn a new language and placing them at a great disadvantage in the classroom and in the labor market (Gates 1981; Tsai 1992). Thus, by enhancing their own status vis-à-vis the

Taiwanese, the Mainlanders maintained one of the prominent features of social stratification initiated by the Japanese.

Taiwan has experienced rapid economic development since World War II. For example, the percentage of the labor force employed in the agricultural sector fell from 56.1 in 1952 to only 7.8 in 2000. Concomitant with rapid industrialization and urbanization, there has been a broadening of occupations, particularly in the middle and upper strata, and a rapid rise in per capita income (Chu 1996). During this post-war period, school enrollment rates rose dramatically – e.g., for senior high school (15-17 year olds), enrollment rates increased from only 8 percent in 1952 to 87 percent in 2000 (Hermalin et al. 1994; Ministry of Education 2001). Yet, despite these dramatic changes, the social status differentials between Mainlanders and Taiwanese have persisted to the present time. Mainlanders continue to be over-represented in the national government, military, and high-level provincial positions such as those in education – occupations that are often associated with wealth, special privileges and political power (Gates 1981; Tsai 1992). Survey data reveal that, even among younger cohorts, Mainlanders have more education, higher status jobs, and larger incomes than the Hakka and Fukienese, differentials that contribute to perceptions by both Mainlanders and Taiwanese of Mainlander superiority (Gates 1981; Tsai 1992). However, recent data suggest that the gaps in educational level and occupational status between Mainlanders and Taiwanese have been decreasing (Wang 2001). Differences between the two Taiwanese groups are more modest, although the Hakka have been better educated than the dominant Fukienese (Tsai 1992).

The importance of family, and especially sons, is another facet of Taiwanese society that may influence adults' perceptions about their social position. Historically, Taiwanese society has been organized around the traditional, patrilineal Chinese family system that emphasized the importance of men and relationships with male kin (Fricke et al. 1994; Ikels 1993). Women were subordinate to men throughout their lives – first to men in their natal families, then to their husbands, and, if widowed, to their sons (Baker 1979). Norms of filial piety that govern intergenerational relationships within Chinese families dictate that children, particularly sons, are responsible for the care of their parents in old age. (Chao 1983; Diamond 1973; Ikels 1993). Thus, a woman's social position is likely to be influenced not only by her marital status and the existence of children (especially sons), but also by the social status of these family members. In particular, given the fundamental importance of education as a pathway for advancement in traditional Chinese culture and in modern Taiwanese society (Weinstein et al. forthcoming) along with dramatic increases in educational attainment among both men and women and concomitant intergenerational social mobility, it is likely that Taiwanese mothers (and plausibly fathers) consider the social status of their children – especially their education – when evaluating their own position.

Data

Data for this study are based on a follow-up of the Survey of Health and Living Status of the Near Elderly and Elderly in Taiwan. This longitudinal survey began in 1989 with a national sample, including the institutionalized population, of 4,049 persons aged 60 and over (92 percent response rate) and was extended in 1996 to include a national sample of 2,462 persons aged 50 through 66 in 1996 (81 percent response rate; Taiwan

Provincial Institute of Family Planning 1989, 1997). Both groups of respondents were interviewed in 1999 (90 percent response rate for survivors from the original cohorts).

In 2000, a national sub-sample of respondents interviewed in 1999 was randomly selected to participate in the Social Environment and Biomarkers of Aging Study (SEBAS). These respondents, who were age 54 and above at the time of the 2000 wave, were drawn from 27 primary sampling units. Older persons (71 and older in 2000) and residents of urban areas were oversampled. Among the 1,713 respondents selected for participation in the study, a total of 1,497 (92 percent of survivors) were interviewed.

In order to consider characteristics of spouses in the analysis, only ever-married respondents (97 percent of the total sample) are included in this study. The sample for analysis consists of 1,222 ever-married men and women – 82 percent of the full sample of 1,497 respondents. Among the excluded cases, 124 are missing data on at least one of the two ladder questions (two-thirds of these interviews were conducted with proxies who were not asked questions involving subjective assessments); 46 are never married and, thus, have no data on spouses' characteristics; and 105 cases are missing information on at least one of the explanatory variables.

The following section describes the ladder measure in detail along with objective measures of the social position of respondents and their families and demographic, social and cultural variables that we expect to influence respondents' subjective assessments. Unless indicated otherwise, all variables are derived from the 2000 survey.

Methods

Measures

<u>Subjective Social Status</u>. Respondents were asked the following two questions (in Chinese), while being shown a picture of the ladder in each case:

(1) Here is a ladder. There are ten rungs in total from the bottom to the top.
Think of this ladder as representing where people stand in Taiwan. At the top of the ladder are the people who are the best off – those who have the most money, the most education and the most respected jobs. At the bottom are the people who are the worst off – who have the least money, the least education, and the least respected jobs or no jobs.
The higher up you are on this ladder, the closer you are to the people at the very top; the lower you are the closer you are to the people at the very bottom.
If you consider your current situation and compare it with all other people in Taiwan, where would you place yourself on this ladder? Please indicate it to me. [Interviewers were instructed to circle the rung that the respondent indicates.]

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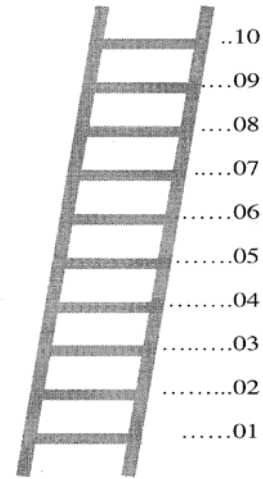
(2) Here is another ladder. There are ten rungs in total from the bottom to the top.
Think of this ladder as representing where people stand in their communities. People define communities in different ways; please define it in whatever way is most meaningful to you. At the top of the ladder are people who have the highest standing in their community. At the bottom are people who have the lowest standing in their community.
If you consider your current situation and compare it with all other people in your community, where would you place yourself on this ladder? Please indicate it to me. [Interviewers were instructed to circle the rung that the respondent indicated. Interviewers were also instructed to let respondents define community by themselves. If respondents did not understand the question, interviewers were permitted to probe using the word neighborhood.]

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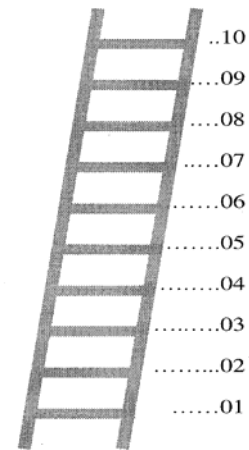
These questions differ from one another in two notable ways: (1) the reference group (Taiwan or the community); and (2) the explicit mention of money, education, and jobs in the first question but not in the second. Almost all respondents who were asked these questions provided a valid response: i.e., for each of the two ladders, slightly over one

percent of respondents indicated that they did not know the answer, did not understand the question, or had no opinion, and fewer than 0.5 percent refused to answer.

Objective social status. Motivated largely by the previous literature, we examine the following measures of objective social status: respondent's education, spouse's education, annual income, prestige of the husband's occupation, and assets. In addition, we consider the education level of the respondent's children. The distributions or mean values of the explanatory variables considered for inclusion in the statistical models are displayed in Table 1.

[Table 1 about here]

Education is measured by the number of years of schooling. The measure for the respondent's children pertains to the most educated child within the family (for 80 percent of the sample, the most educated child is a son). The estimates in Table 1 highlight the large generational gap in education in Taiwan. Whereas respondents in these older cohorts have had only five years of schooling, on average, their most educated child received more than 13 years of schooling. Comparisons between male and female respondents (data not shown) reveal a large sex difference: on average, men in the sample attended school twice as long as women (6.6 vs. 3.3 years).

Information on income comes from the 1999 wave of the survey and reflects the annual income received by the respondent and the respondent's spouse combined. The mean income of couples in the sample is about NT$ 411,000 (or roughly $13,300).[1]

Our measure of occupation reflects the prestige of the primary lifetime occupation of male respondents and of the husbands of female respondents. We restrict this variable to men's occupations because about one-third of the female respondents were never

employed. The measure used here is Tsai and Chiu's (1991) socioeconomic index (SEI score) for Taiwan, which is similar to earlier indices developed by Duncan (1961) and Featherman and Stevens (1982). The theoretical range of the SEI scores is 55.1 to 76.1; the mean score for the sample is 61.9. Low values pertain to such occupations as low-level service workers, agricultural workers and laborers, whereas high values pertain to scientists, physicians, high-level government officials and teachers, among others. The dominant occupational groups in the sample are persons in agricultural work (30 percent); proprietors, managers and officials (21 percent), craftsmen and foremen (13 percent), and semi-skilled workers (10 percent, data not shown). At the time of the survey, about 28 percent of respondents were retired.

We consider several measures of assets for inclusion in the statistical models: home ownership, car ownership, and total monetary value of assets (including a home, other property, stocks and bonds, savings, and a business, if applicable). As shown in Table 1, approximately 57 percent of respondents own their home and about half own a car. The mean value of total assets per family is about NT$ 5.1 million (or about $164,000).

Other measures. We include several basic demographic variables in the model of subjective social status: age, sex, marital status, and place of residence. As shown in Table 1, the median age of the sample is about 69 years. Unlike most samples of older persons, the majority of respondents are male; this sex imbalance results from the selective migration of males from the Mainland after 1949. Almost three-quarters of the ever-married respondents are currently married; because divorce is relatively uncommon in Taiwan, most of the formerly married respondents are widowed. More than half of the sample resides in urban areas.

Two additional factors are considered in this study: ethnicity and number of living sons. As noted earlier, there are three major ethnic groups in Taiwan: the Fukienese, Hakka and Mainlanders; over 70 percent of respondents identify themselves as Fukienese. As shown in the last panel of Table 1, more than 95 percent of respondents have at least one living son, and most have two or more.

Statistical methods

We use ordinary least square (OLS) regression to examine the effects of objective social status and other covariates on the ladder assessments of social position. We estimate separate models for position in Taiwan and for position within the community. In preliminary statistical models, all of the explanatory variables described in Table 1 were included in the model. However, variables that were not significantly related to either set of responses at the 0.05 level of significance were subsequently dropped. To evaluate whether women use different criteria to assess their social position than men, we explored the inclusion of interaction terms with sex.

Models were estimated in STATA based on a robust estimator of variance (also known as a Huber/White estimator) that corrects the standard errors for the clustered sampling design (StataCorp 2001). All estimates are unweighted; to adjust for the weighting scheme, initial models included covariates for age and area of residence but neither variable was significantly related to subjective social status. Along with unstandardized coefficients from the models, we present standardized coefficients in Table 2 to assess the relative importance of the determinants of subjective position.

Results

Description of subjective social status

Figure 1 shows the distributions of the ladder rankings for Taiwan and the community. Although the two measures are highly correlated (a Pearson correlation, equal to the Spearman rank correlation, of 0.78), respondents ranked their position within their community an average of 0.4 of a rung higher than their position within Taiwan (mean = 4.3 for community compared to 3.9 for Taiwan). There are two striking features of the distributions. First, there is a tendency for respondents to place themselves in the middle of the status hierarchy – i.e., for each of the ladder questions, more than one-quarter of respondents selected the fifth rung. Second, both distributions are highly skewed toward the lower end of the scale. For example, for the Taiwan ladder, 57 percent placed themselves on rungs one through four, whereas only seven percent chose rungs seven through ten.

[Figure 1 about here]

This propensity to report relatively low rankings in the social hierarchy persists across social strata that are defined by objective measures of SES. For example, Figure 2 demonstrates that even among respondents who have some secondary education (seven or more years of schooling), about 70 percent selected the lower half of the ladder. At the same time, it is apparent from the figure that higher levels of educations – especially secondary schooling – are associated with a larger proportion of rankings above the fifth rung and a lower proportion below. A similar pattern (not shown here) emerges when respondents are categorized by income level.

[Figure 2 about here]

The distributions of responses to the ladder question in Taiwan stand in sharp contrast to those obtained from similar instruments in Western populations. Kelley and Evans (1995) provide distributions based on the visual 10-point scale described earlier, estimated from national samples of adults in the U.S., Great Britain, Australia, Switzerland, Austria and Germany. Although these six distributions are also clustered at the middle rungs, they are generally symmetric. Estimates obtained from the Whitehall II study reveal less clustering at the middle rungs, but are skewed toward the *higher* ranks (Singh-Manoux et al. 2003). In contrast to both sets of results for Western populations, responses in Taiwan are strongly skewed to the lower rungs. We will return to this issue later in the analysis.

Determinants of subjective social status

The coefficients estimated in the regression models are presented in Table 2, along with select p-values based on two-sided t-tests. Consistent with previous research, the results indicate that all three traditional indicators of objective social status are significant predictors of subjective status: higher levels of education, more prestigious occupations, and higher incomes are associated with higher rankings of social position within Taiwan and the community. This finding is not surprising given that education, occupation and income are explicitly mentioned in the ladder question. Three additional socioeconomic variables are significantly related to both sets of ladder responses: years of schooling for the respondent's spouse and for the respondent's most educated child and car ownership. However, the overall explanatory power of these indicators of objective status is modest. For example, for the Taiwan ladder responses, the percent of

variation explained by the three conventional indicators and by all measures of objective status combined are 11 and 14 percent respectively (data not shown).

[Table 2 about here]

The standardized coefficients for both models suggest that, among the conventional indicators of objective social status, the respondent's education is the most important determinant of the subjective assessments in Taiwan. In contrast, earlier studies in Western populations have found that occupation or income generally has larger effects on subjective social status than education (e.g. Centers 1949; Hodge & Treiman 1968; Kelley & Evans 1995; Kourvetaris & Dobratz 1984). This finding, combined with the result that each of the three education variables – schooling of the respondent, the spouse, and the most educated child – has substantial and significant independent effects on the subjective assessments in Taiwan, underscores the fundamental importance of education in Chinese societies.

Two socio-cultural variables emerge as important predictors of subjective status: ethnicity and number of sons in the family. Contrary to previous findings of perceptions of Mainlander superiority in Taiwan, the (unstandardized) coefficients for Mainlanders are the lowest among the three ethnic groups, whereas those for the Hakka are the largest. The difference between the community-level rankings of Mainlanders and the Hakka is quite striking: in the presence of control variables, Mainlanders assess their position in the community as more than two-thirds (-0.68) of a rung lower than their Hakka counterparts. Estimates not presented here indicate that, even in a simple model that includes only sex and a dummy variable for Mainlander status, Mainlanders do not rank themselves significantly higher than their Taiwanese counterparts – in spite of their

higher educational levels, incomes and SEI scores. It is also interesting to note that, despite views that socioeconomic differences between the two dominant Taiwanese groups are modest and have diminished over time (Tsai 1992), the Hakka rank themselves higher than the Fukienese, in the presence of controls for objective social status.

The finding regarding number of sons shows that, as hypothesized, respondents who have more sons provide higher assessments: i.e., respondents with two or more sons position themselves 0.63 of a rung higher within Taiwan than those without any sons. However, within the community, sons are associated with a smaller (and insignificant) increment in subjective standing.

These findings suggest that the determinants of subjective position may depend on whether the nation or the community serves as the reference group. In order to ascertain whether differences between the two sets of coefficients reflect more than sampling error, we pooled responses from both ladder questions into a single data set and estimated a linear random effects model that included interaction terms between the reference group and each of the explanatory variables; inclusion of the random effect allows for a correlation between the two responses for a given person. The results of this exercise (data not shown) reveal that only one of the coefficients for position within the community differs significantly from the corresponding coefficient for position within Taiwan: Mainlanders position themselves significantly lower (relative to Hakka) in their community than in the society as a whole.

The relatively low assessments of social standing by Mainlanders stand in contrast to estimates from the 2000 survey that show that, on average, Mainlanders have

higher education levels, incomes, and occupational status than their Taiwanese

counterparts. This paradox may be partly the result of recent political changes stemming

from a progressive loss of political power by the Kuomintang (KMT) government. The

first noteworthy opposition party, the DPP, was formed in 1986, signifying the start of an

era in which Taiwanese locals increased their political power vis-à-vis Chinese

Mainlanders (Chu 1996). Since that time, the DPP has gradually increased its presence in

local government, with several large cities led by DPP mayors. The victory of Chen

Shui-bian in 2000 marked the first time a Taiwanese from an opposition party assumed

the presidency, thereby ending domination by the KMT and creating what some have

viewed as an especially favorable situation for Fukien Taiwanese (Copper 2003). More

generally, the democratization of the 1980s and 1990s appears to have spurred the

development of "Taiwan-centered" national identities in Taiwan (Wang and Liu 2004) –

e.g., increased recognition of the island as distinct from the Chinese mainland – that may

have further lowered Mainlanders' appraisal of their social status. The importance among

Taiwanese of maintaining bonds and traditions within a community, in contrast to

Mainlanders' reliance on provincial-level connections and avoidance of community ties

(Gates 1981; Greenhalgh 1984) may underlie our finding that ethnic differences are

larger for the community assessments than for the national ones.

Several variables presented in Table 1 are not significantly associated with

position in Taiwan or in the community and are not included in the models presented in

Table 2: age, sex, marital status, place of residence, home ownership and total value of

assets. The lack of significant effects for age and sex is particularly surprising. In light of

the rapid social and economic transformation that occurred in Taiwan during the lives of

these cohorts and the high degree of gender stratification that characterized most of their years, it seems plausible that: (1) cohorts in their 50s or 60s would rank themselves higher than their older counterparts; and (2) women would evaluate their social position below that of men. The results in Table 2 indicate that, in the presence of a set of control variables, neither hypothesis receives support from the data. However, it may be more appropriate to examine the effects of age and sex in the absence of controls for objective social position. Simple models that include only age and sex provide some, but relatively weak, support for the importance of these variables: age is significantly negatively associated with subjective position in the community and women rank themselves significantly lower than men within Taiwan, but both effects are small (e.g., women rank themselves about 0.2 of a rung lower than men).

It is also likely that women emphasize different criteria than men (e.g., family composition rather than objective measures of social status) when appraising their social standing. In order to evaluate this supposition, we estimated separate models of subjective social status by sex (results not shown). None of the resulting differences between the two sets of ladder responses is statistically significant and there are no clear patterns regarding the differentials in the coefficients. The results do suggest, however, that women may place more emphasis on the education of their children and the prestige of the husband's occupation than men, whereas men may give greater weight to the couple's income.

The findings regarding assets suggest that car ownership bestows psychological and social benefits greater than those associated with home ownership or financial assets. A car not only offers physical mobility and independence, which may be especially

important for middle-age and older cohorts, but it is apt to be an important status symbol in a society dominated until recently by motorcycles and bicycles. In distinguishing middle and upper class Taiwanese today from their predecessors, Chu (1996) notes that the prime difference between these groups relates not to the accumulation of wealth but to the consumption of goods associated with Western middle-class lifestyles.

Discussion

In this paper we evaluate a recently developed instrument of subjective social status by analyzing responses for a national sample of older adults in Taiwan and comparing the findings with those based on earlier measures in Western societies. Our results are generally consistent with previous research in the sense that objective measures of social position – including the conventional ones as well as variables seldom considered in this type of research – emerge as significant determinants of subjective assessments in Taiwan. At the same time, however, this analysis extends beyond most previous studies to provide evidence that social and cultural factors affect subjective assessments of social position. Ethnic identification and characteristics of children – namely, their education and their sex – have substantial effects on how individuals in Taiwan assess their position. These findings also underscore the potential importance of cultural differences between non-Western and Western societies for subjective evaluations of social position, in contrast to earlier research stressing the similarities among Western populations (Kelley & Evans 1995). For example, the significance of sons and the dominance of education over other components of SES are likely to be less salient features of subjective social status in Western populations than in Taiwan.

Although we have demonstrated that this ladder measure works well in a society where status is defined, at least in part, by income, education, and occupation, it may not be as appropriate in cultures where position in the social hierarchy is based primarily on other notions of social position. As such, researchers interested in using this measure may want to exclude the reference to income, education and occupation from the question, leaving it up to individual respondents to decide the criteria upon which to base assessments of their status. If including criteria in the question is desirable, ethnographic research would be useful for determining what those criteria should be.

Our finding regarding the similarity of the distributions for the Taiwan and the community ladders raises the question of whether separate assessments for two reference groups are warranted. The results presented here indicate that, not only are the two sets of responses highly correlated (0.78), but – with the exception of only the ethnicity variable – the determinants of the assessments are the same. In their study in the U.S., Goodman et al., (2001) conclude that the two ladder questions tap distinct domains of social position, but a closer examination of their findings indicates that, although the correlation between the two questions is relatively low for adolescents, it is considerably higher for their mothers.[2] Thus, it is possible that the two sets of questions are redundant among older adults. It is also plausible that the similarity of responses for the two reference groups in Taiwan results partly from a relatively low degree of residential clustering by socioeconomic level.

The concentration of responses on the lower rungs of the ladder in the Taiwan survey stands in contrast to findings for Western population and suggests two potential explanations. First, in view of the rapid social and economic transition that occurred in

Taiwan after World War II, respondents in this study (who are age 54 and older) may view their social position as low relative to younger cohorts that are highly educated, Westernized, and economically more successful. However, our finding that age is not a strong determinant of ladder position weakens the plausibility of this supposition.[3] An alternative hypothesis is that the unexpectedly low assessments of social position result from a key feature of traditional Chinese culture, namely the high value placed on modesty and humility (Crittenden 1991; Lee & Seligman 1997). Unfortunately, these data do not provide an opportunity to evaluate this hypothesis.

Several additional results from this analysis support the utility of the ladder questions in future research. The finding that almost all respondents in Taiwan are able to provide answers to these questions and that their responses reveal the anticipated associations with traditional measures of objective social status is encouraging. The importance of non-economic indicators for the subjective assessments provides further evidence for the potential utility of this instrument because it demonstrates that the measure encompasses diverse aspects of respondents' lives that are apparently important to their psychological appraisal of their position within the social hierarchy. Finally, the absence of substantial age differentials within the SEBAS sample suggests that this instrument may be interpreted in a similar fashion across a broad age range that spans the critical junction between working and retirement years.

Whereas research on subjective social position has been largely the domain of sociologists, social epidemiologists are showing increasing interest in this topic in their efforts to understand social gradients in health. In recent years, numerous scholars have suggested that relative deprivation or relative social position is just as important a

determinant of health as absolute socioeconomic status, thereby generating a renewed

emphasis on subjective social position (Goodman et al. 2001; Kawachi et al. 1999).

Findings to date from analyses based on the MacArthur Scale in the U.S., England, and

Taiwan suggest that the ladder instrument is predictive of a broad range of measures of

well-being, including cognitive function, depressive symptoms, global self-ratings of

health, functional limitations, chronic diseases, and health conditions. Indeed, these

analyses reveal that the ladder is a significant predictor of health even in the presence of

conventional measures of SES, and, in some cases, even when the conventional measures

themselves are not significantly associated with health (Goldman et al. 2003; Goodman et

al. 2001; Hu et al. 2004; Singh-Manoux et al. 2004).

The resurgence of social epidemiological research underscores the paucity of

studies on the *measurement* of SES and the inadequacy of many existing measures for the

older population (Grundy & Holt 2001; Oakes & Rossi 2003). Although the MacArthur

instrument has been implemented in only several surveys to date, results for the U.S.,

England, and Taiwan suggest that this measure is likely to make important contributions

to the measurement of social status, to our understanding of how individuals assess their

social position, and to research on social disparities in health.

Acknowledgments

1   This estimate is based on an average conversion rate of NT$31 to one US dollar

     for the period 1999-2000.

2   The Spearman rank correlation between the two ladders was 0.61 for mothers of

     the adolescents as compared with 0.35 for the adolescents themselves (Goodman

     et al. 2001). Both groups of respondents were given the same ladder question

     pertaining to U.S. society, but the second question pertained to the school

     community for adolescents and to the community (as defined by the respondent)

     for adults.

3   For example, in a simple regression model that includes only age (as a continuous

     variable) and sex, a twenty-year difference in age is associated with a difference

     of only 0.17 of a rung for Taiwan and 0.30 for the community. Because the 2000

     SEBAS survey is limited to persons 54 and older, the analysis includes only

     individual born in 1946 or earlier. With the availability of future waves of this

     survey, we will be able to determine whether the inclusion of more recent cohorts

     results in larger age effects.

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Table 1. Distribution of Explanatory Variables

	Percent/ Mean (Standard Deviation)
Demographic characteristics	
Age (%)	
54-69	50.7
70-79	40.4
80+	8.8
Male (%)	56.4
Currently married (%)	73.0
Lives in urban areas (%)	56.0
Objective social status	
Education (mean)	
Years of schooling of respondent	5.2 (4.7)
Years of schooling of spouse	4.9 (4.5)
Years of schooling of most educated child	13.2 (3.1)
Annual income of respondent and spouse (mean NT$1000)	411 (583)
SEI for male occupation (mean)	61.9 (4.9)
Owns a home (%)	56.9
Owns a car (%)	49.6
Total value of assets (mean NT$1000)	5089 (8167)
Sociocultural factors	
Ethnicity (%)	
Hakka	12.4
Fukienese	71.9
Mainlander	15.6
Number of living sons (%)	
Zero	4.5
One	23.6
Two or more	71.9
Number of respondents	1222

Table 2. Standardized (β) and Unstandardized (b) OLS Regression Coefficients for Subjective Social Status in Taiwan and in Own Community

| Variable	Taiwan			Community		
	β	b	SE[a]	β	b	SE[a]
Constant		0.0505	0.7766		1.0665	0.7059
Objective Social Status						
Respondent schooling	0.1156	0.0480	0.0173 *	0.1202	0.0549	0.0183 **
Spouse schooling	0.0957	0.0415	0.0146 **	0.0931	0.0444	0.0200 *
Schooling of most educated child	0.0863	0.0548	0.0161 **	0.0918	0.0640	0.0224 **
Income (NT$1,000)	0.0898	0.0003	0.0001 **	0.0766	0.0003	0.0001 **
SEI for male occupation	0.0822	0.0324	0.0127 *	0.0617	0.0267	0.0111 *
Owns a car	0.1240	0.4821	0.0829 **	0.1067	0.4559	0.0981 **
Sociocultural Factors						
Ethnicity *(Hakka omitted)*						
Fukienese	-0.0660	-0.2810	0.1220 *	-0.0908	-0.4247	0.1924 *
Mainlander	-0.0597	-0.3051	0.1963	-0.1204	-0.6761	0.2333 ** ‡
Number of sons *(Zero sons omitted)*						
One	0.0857	0.3917	0.2435	0.0361	0.1815	0.3796
Two or more	0.1508	0.6264	0.2289 *	0.0869	0.3969	0.3391
N		1222			1222	
R-square		0.1494			0.1300	

* $p < 0.05$
** $p < 0.01$
‡ Based on the random effects model, coefficients for the Taiwan model and the community model are significantly different at $p < 0.05$

[a] Standard errors have been corrected for the clustered sampling design.

Figure 1: Subjective Social Status in Taiwn and in the Community
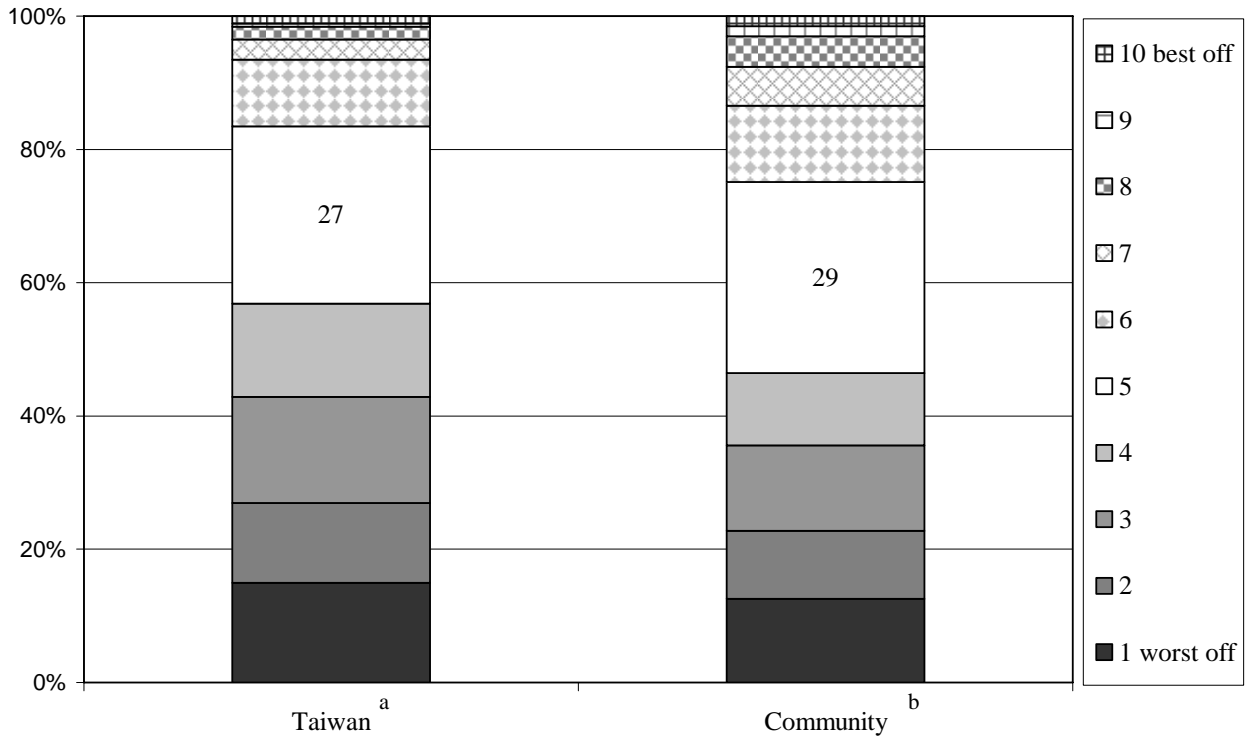
[a] The actual percentages positioning themselves on rungs 1 through 10 respectively are as follows: 15.1, 11.6, 15.6, 14.0, 27.1, 9.8, 3.2, 1.9, 0.6, and 1.1. The mean and standard deviation equal 3.89 and 1.94 respectively.

[b] The actual percentages positioning themselves on rungs 1 through 10 respectively are as follows: 12.9, 10.1, 12.8, 10.8, 28.5, 11.5, 5.9, 4.7, 1.5, and 1.6. The mean and standard deviation equal 4.33 and 2.13 respectively.

Figure 2: Subjective Social Status by Level of Education
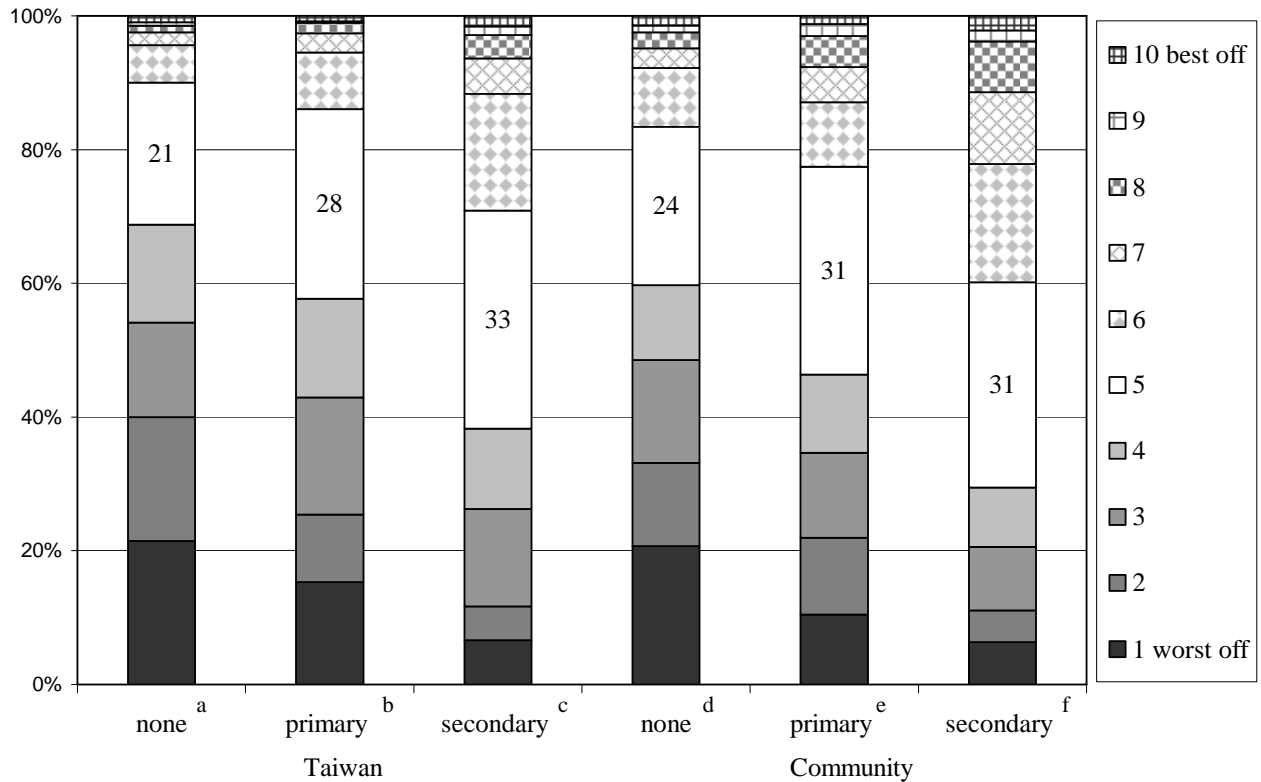
ᵃ The actual percentages positioning themselves on rungs 1 through 10 respectively are as
follows: 21.5, 18.5, 14.2, 14.6, 21.2, 5.6, 2.0, 1.0, 0.5, 1.0.

ᵇ The actual percentages positioning themselves on rungs 1 through 10 respectively are as
follows: 15.3, 10.1, 17.5, 14.7, 28.4, 8.5, 2.8, 1.6, 0.2, 0.8.

ᶜ The actual percentages positioning themselves on rungs 1 through 10 respectively are as
follows: 6.7, 5.1, 14.6, 12.0, 32.6, 17.4, 5.4, 3.5, 1.3, 1.6.

ᵈ The actual percentages positioning themselves on rungs 1 through 10 respectively are as
follows: 20.7, 12.4, 15.4, 11.2, 23.7, 8.8, 2.9, 2.4, 1.0, 1.5.

ᵉ The actual percentages positioning themselves on rungs 1 through 10 respectively are as
follows: 10.5, 11.5, 12.7, 11.7, 31.0, 9.7, 5.2, 4.6, 1.8, 1.2.

ᶠ The actual percentages positioning themselves on rungs 1 through 10 respectively are as
follows: 6.3, 4.8, 9.5, 8.9, 30.7, 17.7, 10.8, 7.6, 1.6, 2.2.