The impact of subjective and objective social status on psychological distress among men and women in Japan

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ABSTRACT

From around 1990s, social disparity issues and their effects on mental health have been gaining increasing attention in Japanese society. Findings from previous studies on socioeconomic status (SES) and mental health in Japan are inconsistent. Subjective Social Status (SSS) has been proposed and tested as a stronger predictor of mental health than measures such as education, income and occupation in the UK and US, but this has not been tested enough in countries with a different social and cultural background such as Japan. In the present study, a cross-sectional questionnaire survey was conducted in 2006 among a nationally representative community-based random sample of residents in Japan aged 20–74 years. A total of 1237 participants completed the questionnaire, with the overall response rate of 61.9%. After excluding 42 respondents, data from 1195 respondents (574 men and 621 women) were analyzed. SSS, household income, and education level of respondents were measured using single-item questions. Those with a K6 score of 5 or greater were defined as having psychological distress. A multiple logistic regression model was used to examine the effects of SSS, household income, and education on psychological distress. Among men, the prevalence of psychological distress, after adjusting for age and marital status, differed significantly across groups classified based on SSS, household income, and education. Among women, only SSS was significantly associated with psychological distress after adjusting for age and marital status. However, when all three variables were simultaneously entered into the model, SSS and household income were significantly associated with psychological distress, with the low SSS group having a higher odds ratio of psychological distress. In summary, SSS seems to be a stronger predictor of psychological distress among both men and women in the Japanese community than traditional measures of SES.

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Introduction

The relationship between socioeconomic status (SES) and psychological distress, such as depression and anxiety, has been widely analyzed (Lorant et al., 2003). Previous studies have reported that low SES is generally associated with high psychological distress and have found a dose-response relationship between education or income and psychological distress.

Subjective social status (SSS), defined as "the individual's perception of his own position in the social hierarchy," is regarded as a new indicator of socioeconomic status or social class (Jackman & Jackman, 1973), other than income and education. Recent studies have found that low SSS is also associated with health problems, especially poor physical health (Cohen et al., 2008; Goodman et al., 2003; Goodman et al., 2001; Hu, Adler, Goldman, Weinstein, & Seeman, 2005; Singh-Manoux, Marmot, & Adler, 2005), higher cortisol levels (Wright & Steptoe, 2005), poor mental health (Collins & Goldman, 2008; Demakakos, Nazroo, Breeze, & Marmot, 2008; Franzini & Fernandez-Esquer, 2006; Leu et al., 2008; Singh-Manoux, Adler, & Marmot, 2003; Singh-Manoux et al., 2005), and higher mortality (Kopp, Skrabski, Rethelyi, Kawachi, & Adler, 2004). Singh-Manoux (2003, 2005) and Demakakos et al., (2008) reported that SSS is also significantly associated with depression.

It is likely that SSS has been receiving increasing research attention because it acts as a measure of one's relative position in the society. Some researchers have suggested that it is not the exact level of SES that is most important for health but rather inequality

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resulting from relative standing (Adler, Epel, Castellazzo, & Ickovics, 2000), which is better captured by SSS. The association between income inequality and mortality suggests a need to delineate the importance of relative social disadvantage through self-perception of one's relative position in the social hierarchy (Kaplan, Pamuk, Lynch, Cohen, & Balfour, 1996; Kawachi & Kennedy, 1997; Kennedy, Kawachi, & Prothrow-Stith, 1996; Lynch, Smith, Kaplan, & House, 2000). While traditional measures of SES, such as education, income, and occupation, are probably reflected in an individual's assessment of SSS (Jackman, 1979), the determinants of SSS include broader social, psychological, and economic factors. A perception of SSS could reflect not only present social circumstances but also the individual's assessment of his/her past experiences as well as his/her future prospects. SSS might also encompass the individual's family resources, opportunities, and life chances (Jackman, 1979; Singh-Manoux et al., 2003). In fact, the correlation between SSS and SES has been found to be around 0.5 (Adler et al., 2000; Operario, Adler, & Williams, 2004; Ostrove, Adler, Kuppermann, & Washington, 2000; Singh-Manoux et al., 2005). Thus, SSS may capture a broader range of aspects of social stratification than does SES.

Early studies that identified stronger association between SSS rather than SES and perceived health were conducted mainly with white population. Later studies that tested this association among various ethnic groups found that it was not always the case. For instance, Ostrove et al., (2000) reported that SSS, after adjusting for household income, was significantly associated with self-rated health among White and Chinese American pregnant women but not between their African American and Latina counterparts. The determinants of SSS may also vary across country and over time. A comparative study by Adler, Singh-Manoux, Schwartz, and Marmot, (2008) found that the most important determinant of SSS was occupational class among the UK civil servants and income and education among US males. An international comparative study by Ishida (2004) found that, regarding SSS, occupational class had the largest explanatory power in Germany and Japan while education was the strongest determinant in US population. Furthermore, Kikkawa (2000) used time-series to conduct cross-sectional data of Social Stratification and Mobility (SSM) study in 1975, 1985, and 1995 in Japan and showed that, since 1980's, household income became a stronger determinant of SSS followed by education and occupational class after bubble economy collapse in the 1990's. However, as of today, the association between SSS and health has not been fully investigated in a large representative sample of Asian population, including Japanese.

Income distribution in Japan used to be relatively egalitarian, and the Japanese welfare policies and universal health care insurance coverage was expectedly more protective to population health compared to countries with a selective and private-public mix system such as the US. Since 1990s, however, the awareness regarding disparity in socioeconomic as well as health conditions has been gradually increasing in the Japanese society. Indeed, according to OECD FACT BOOK (2009) and Japanese government statistics, the Gini coefficient of Japanese household income distribution is now higher than the OECD average and that the extent of income inequality has grown since late 90's (Fö rster & Mira d'Ecorle, 2005; Oshio & Kobayashi, 2009; Oshio, Tajika, & Fukawa, 2006). It has been reported that relative income deprivation is associated with poor self-rated health in Japan as well as other countries, independently of absolute income (Kondo, Kawachi, Subramanian, Takeda, & Yamagata, 2008).

While Japanese population health including life expectancy is one of the highest in the world, many researchers are concerned that income and education disparities negatively influence people's health (Kagamimori, Gaina, & Nasermoaddeli, 2009). Widening disparity in mental health across social strata and regions is of great public health concern due to increasing rates of suicide since 1998 along with weakened national economy and growing unemployment rate (Aihara & Iki, 2003; Fukuda, Nakamura, & Takano, 2005). However, previous findings on the relationship between SES and mental morbidity in Japan were inconsistent (Andrade et al., 2003; Honjo et al., 2006; Inaba et al., 2005; Kawakami et al., 2005). One study reported that education and household income were associated with poor self-rated mental health among women but not among men (Honjo et al., 2006). Another study reported that household income was associated with depression in Japan to a similar extent as in the US, though it failed to identify any significant association between education and depression (Inaba et al., 2005). This leads to a question whether traditional SES indicators such as education and household income, consistently capture socioeconomic factors that are important for and affect Japanese people's mental health.

In countries like Japan, which hold a long tradition of communitarianism, the extent and quality of social networks and individuals' informal positions within their reference groups that may not be fully captured by income and educational attainment may more affect people's perception of social class (namely SSS). As previously reported, in the UK, US and Taiwan (Adler et al., 2008; Singh-Manoux et al., 2005), SSS, as an integrated indicator of relative socioeconomic status, may be a better predictor of mental health than SES. In Japan, the same relationship could be expected. Moreover, it would also be expected that the association between traditional SES and mental health, when accounting for SSS, may be different from those previously found in predominantly white and Western populations. In addition, this association may also differ across gender in this country.

Testing the associations among SES, SSS, and mental health in a nationally representative sample of Japan could contribute to our understanding of the role of socioeconomic status and SSS in determining mental health in Japan. The findings might also show whether SSS can be a universal indicator of relative socioeconomic status across countries, expanding current UK and US findings (Adler et al., 2008; Demakakos et al., 2008; Singh-Manoux et al., 2003, 2005), as well as of the elderly in Taiwan (Collins & Goldman, 2008).

The aim of this study was to examine the relationship between SSS, as well as other SES (education and income), and psychological distress, as an indicator of mental health, in the community population in Japan, using a nationally representative sample. Considering that previous studies found gender differences in SES and mental health in Japan (Honjo et al., 2006; Inaba et al., 2005), possibly reflecting traditional gender roles difference in this country, we conducted the analyses separately for men and women. We hypothesized that low SSS, rather than traditional SES, would be associated with greater psychological distress in both men and women in this sample.

Method

Participants

A cross-sectional questionnaire survey was conducted in May 2006 among a nationally representative community-based sample of residents in Japan aged 20–74 years, and was been approved by the ethical committee of the University of Tokyo. The random sample was selected at each survey site based from a basic resident registry or, if the registry was not available, through random-walk sampling using Kish method (Kish, 1965). A two-step random sampling method was used. First, all prefectures were classified into 11 sections. The municipalities within each section were