Is Subjective Status Influenced by Psychosocial Factors?

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Introduction

Status perceptions was a popular area of study for sociologists during the 1950's and onward, mainly targeting subjective class identity, status incongruity, and perceptions of subjective rank and prestige (Blocker & Riedesel, 1978; Davis, 1956; Jackman & Jackman, 1973; Jackson, 1962; Kluegel et al., 1977; Nelson, 1973; Starnes & Singleton, 1977) but interest in this area wore off in the 1980's. Lately, there has been an increasing interest in measuring subjective social status in relation to health, challenging more traditional resource-based measures of socioeconomic status (SES) such as income, education and occupation (Adler et al., 2000; Franzini & Fernandez-Esquer, 2006; Ghaed & Gallo, 2007; Goldman et al., 2006; Hu et al., 2005; Kopp et al., 2004; Operario et al., 2004; Singh-Manoux et al., 2003; Singh-Manoux et al., 2005). One reason for testing subjective status as an independent predictor for health is that relative position in a hierarchy has showed to matter for health (Adler et al., 1994; Adler and Ostrove 1999; Feinstein, 1993; Marmot & Wilkinson, 1999; Ross & Wu, 1995). Thus, subjective status might be a more relevant measurement for certain health outcomes than objective status measures. One suggestion to why relative position matters to health is that people of lower SES may suffer from lower resilience to stress and own less reserve capacity to cope with challenges, while being more frequently exposed to stressful circumstances than higher-SES individuals (Gallo & Matthews, 2003; Kristenson, 2006). The psychosocial strain inherent in this could affect health either through immunological pathways or via adverse lifestyle patterns (Kristenson et al., 2004; van Lenthe et al., 2004; Siegrist & Marmot, 2004). Studies using objective SES indicators have shown that people with low SES in general have

more unfavourable levels of psychosocial risk factors (Kristenson et al., 1998; Sjogren, 2005; Taylor & Seeman, 1999) and a large body of research has demonstrated a gradient in the relationship between objective indicators of SES and psychosocial factors (Bobak et al., 1998; 2000; Cohen et al., 1999; Gallo & Matthews, 2003; Gallo et al., 2006; Haukkala, 1999; Kristenson et al., 2001). Further, several studies have established that negative emotions and attitudes predict health outcomes, as scale scores of coping (mastery), self-esteem (Pearlin & Schooler, 1978) and sense of coherence (Antonovsky, 1984) have proved to be significantly related to reduced risk of all-cause mortality (Penninx et al., 1997; Skinner, 1996; Surtees et al., 2003), while scale scores of negative affect such as cynicism, hostile affect (Barefoot et al. 1989; Lynch et al., 1997), hopelessness (Everson et al., 1996) vital exhaustion (Appels & Otten, 1992) and depression (Wulsin & Singal, 2003) have shown to predict mortality also after control for effects of traditional risk factors. As for perceptions of subjective status, the subjective experience of being left behind could "add insult to injury", for instance via shaming experiences. Perceiving oneself as inferior to others from a certain class or group in society has been suggested as a form of status-bound sense of shame in modern society (Neckel, 1991). Feelings of shame are, according to Wilkinson (2005), plausibly one of the most powerful and recurrent sources of stress that could influence the association between social status and health. If perceptions of social status really contribute to psychosocial strain, a subjective status measure should show stronger associations with psychosocial factors than an objective SES measure would.

Subjective status, objective status, psychosocial factors, and health

Studies evaluating subjective and objective status measures have found that a self-anchoring measure of subjective status (Adler et al., 2000) show stronger associations with self-rated health, psychological factors and some clinical outcomes, than objective status measures do

(Adler et al., 2000; Ghaed & Gallo, 2007; Operario, 2004; Singh-Manoux et al., 2003; Singh-Manoux et al., 2005). It has been discussed whether the perception of subjective status might be influenced by psychological factors such as negative affect (Adler et al., 2000; Operario et al., 2004) and psychological well-being (Singh-Manoux et al., 2003). While some support has been found for the mediation effect of psychosocial factors in the relationship between objective SES measures and health (Cohen et al., 1999; Levenstein & Kaplan, 1998) the potential mediating effect of psychosocial factors in relation to subjective status is so far less explored. Operario et al. (2004) tested whether negative affect could function as a possible confounder in the association between subjective status and self-rated health. When negative affect was included in the model, the association between subjective status and health was not diminished any more than it was for income or education, which led the authors to conclude that negative affect is not uniquely confounded with subjective status, and that it may instead play a role as a mediator in the association between subjective status and self-reported health (Operario et al., 2004). The authors further suggest that future studies should include (positive) components such as control and optimism to test the stability of associations between subjective and objective status measures and health. Our first aim with the present study is to extend previous analyses on psychosocial factors as potential confounders in the association between measures of subjective and objective status and health, by introducing a larger battery of psychosocial factors, among them perceived control and a measure of optimism.

Predictors of subjective status

If subjective status is a stable predictor for health, and if we want to develop tools to manage health effects springing from this in future policies, we also need to know what items predicts or co-varies with subjective social status. Our second aim with this paper is to test a battery of items hypothesized to predict self-assessed social status, adding to the few previous studies

carried out on this matter (Franzini & Fernandez-Esquer, 2006; Singh-Manoux et al., 2003). Adler et al (2000) suggest that the assignment of subjective status is mainly a process of averaging between one's objective status positions. The authors found that subjective SES was more strongly related to a composite measure of SES (standardised mean of income, education, and occupation taken together) than to any one objective SES indicator. But findings skew a little: Adler et al. (2000) found in their study that occupational status was related to both education and income, while subjective status was significantly related to education and income, but not to occupational status. However, in a study by Singh-Manoux et al. (2003), subjective status was found to be most strongly correlated with occupation, in terms of employment grade. The authors tested 16 different predictors for subjective status which resulted in five items being significantly related to this measure: employment grade, satisfaction with standard of living, household income, feeling of financial security, and education. Together, these items explained 48 % of the variation associated with subjective status, where employment grade was the single strongest predictor, with income and household wealth next. The authors concluded that subjective status was not biased by any psychological characteristics, as none of these items contributed significantly to their final model of predictors. They further suggest that subjective status probably encompasses future prospects and opportunities, as well as reflected appraisals from others. We will test this hypothesis by including a measure of optimism as an indicator of future prospects, and a measure of shame, representing the reflected appraisals suggested above. Overall, we wish to contribute to the yet rather unexplored research field around subjective status and health by presenting a study based on current data from a Swedish population, as Scandinavian data to our knowing has not yet been used for any analyses on subjective status, psychosocial factors, and health. Further, by introducing a large battery of validated instruments measuring psychosocial resources, such as coping, self-esteem, and trust, we wish to extend previous research that has mainly focused on

psychosocial risk factors (or negative affect). As for the term “psychosocial factors”, we will follow Marmot (2004) who defines psychosocial factors as “psychological factors that are influenced by the social environment”, in turn underlining a definition by Pearlin and Schooler (1978) who describe psychological resources as “the personality characteristics that people draw upon to help them withstand threats posed by events and objects in their environment”. In the detailed analysis, we will refer to these personality characteristics as either psychosocial risk factors (negative) or psychosocial resources (positive), and treat these as two discrete dimensions (Gallo & Matthews, 2003).

Aim

We aim to test whether subjective status is influenced by psychosocial factors through two modes of analyses. First, we will test the influence of psychosocial factors on the association between subjective and objective indicators of socioeconomic status and self-rated health, with the aim of seeing whether psychosocial factors seem to be uniquely confounded with subjective status, compared to objective measures of socioeconomic status. Secondly, we will test which factors that may predict subjective status, using four variable categories: expanded traditional SES measures (also including parents’ and partner’s occupation and education), self-rated economy, psychosocial factors, and life satisfaction measures.

Material and methods

Data

This is a cross-sectional study with follow-up data collected in 2006 from 795 men and women. Data at baseline were collected during 2003-2004 where 1007 men and women aged 45-69 years were randomly selected from the catchments areas of 10 primary health care centres in the southeast of Sweden. Data collection included self-reported data via

questionnaires, clinical examination and blood sampling at a visit to a local clinic. Exclusion criteria were serious disease and severe difficulties in understanding the Swedish language.

Table 1a. Descriptive characteristics of the population sample: age, sex, self-rated health and SES indicators.

n = 795	**% (n) or mean (SEM)**
Age (years)	60.0 (0.25)
Sex	
Female	49.2 (391)
Male	50.8 (404)
Self-rated health	
Excellent	8.9 (70)
Very good	27.9 (219)
Good	42.2 (331)
Relatively good	18.5 (145)
Poor	2.4 (19)
Education	
Primary (<=9 yrs.)	34.4 (270)
Vocational (<=11 yrs.)	30.1 (236)
Secondary (>=13 yrs.)	13.6 (107)
University (>13 yrs.)	21.9 (172)
Occupation	
Unqualified manual	20.4 (157)
Qualified manual	17.1 (131)
Lower non-manual	16.9 (130)
Higher non-manual	32.9 (253)
Self-employed & farmers	12.6 (97)
Subjective status (ladder rank)	6.4 (0.06)
1	0.9 (7)
2	1.3 (10)
3	2.8 (21)
4	5.9 (44)
5	15.7 (117)
6	19.9 (148)
7	25.9 (193)
8	19.8 (147)
9	5.8 (43)
10	1.9 (14)

Table 1b. Descriptive characteristics of the population sample: psychosocial factors, life satisfaction and optimism.

Psychosocial factors (max score)	**% (n) alt. mean (SEM)**
Perceived control (60)	51.2 (0.28)
Sense of coherence (91)	68.8 (0.39)
Trust (20)	17 (0.08)
Mastery (28)	22.7 (0.12)
Self-esteem (40)	32.5 (0.17)
Cynicism (60)	29.8 (0.30)
Vital exhaustion (57)	29.3 (0.28)
Depression (48)	8.1 (0.28)
Hopelessness (8)	2.1 (0.07)
Shaming experiences	
0 types of experiences	60.1 (472)
1-5 types of experiences	39.9 (313)
Optimism	
Negative	14.9 (112)
Neutral	62.2 (469)
Positive	22.9 (173)
Life satisfaction (10)	7.3 (0.06)

Measurements

SES indicators: *Education* was measured on four levels: primary (9 years or less), vocational (10 or 11 years), secondary (12 or 13 years) and university (14 years or more). *Occupation* was measured according to the Swedish SEI-coding system (Statistics Sweden) where unique codes are assigned each occupational group, depending on the educational requirements for that particular occupational position. To enable comparative analyses, each group have been referred to one of five categories, resulting in unqualified manual workers, qualified manual workers, unqualified non-manual, qualified manual including managerial, and a self-employed category including farmers. *Mother's, father's and partner's occupational status* were categorized in line with the above (five categories), as were *mother's, father's and partner's education* (four categories). *Self-rated economy* was adopted from the HAPIEE study (Peasey et al., 2006) and measured by the question: "How do you rate you household economy?" with response options ranging from "very good" to "very poor" on a 5-step Likert

scale. The two other questions on economy was: “During the past 12 months, have you ever experienced difficulties paying rent, mortgages and the like expenses?” and “If you would need 20 000 SEK on short notice (about 2 000 euro), would you be able to get it within a week?”. Both questions were coded as dichotomous variables.

Health: Self-rated health (Ware & Sherbourne, 1992) was assessed by a standard single question with answers ranging from “excellent” to “poor” on a 5-point Likert scale.

Psychosocial factors: *Mastery* is often used as an equivalent to *coping* and addresses the extent to which one regards one’s life chances as being under one’s own control in contrast to being fatalistically ruled, while *self-esteem* refers to one’s attitude towards oneself. The scales by Pearlin and Schooler (1978) are used to measure these two characteristics. *Perceived control* relates to the extent to which an agent perceives that he/she can intentionally produce desired outcomes and prevent undesired ones (Bobak et al., 1998). The three dimensions in the S*ense of Coherence* concept cover the ability to define life events as less stressful (comprehensibility), to mobilize resources to deal with encountered stressors (manageability), and motivation, desire, and commitment to cope (meaningfulness). The 13-item questionnaire by Antonovsky is used (Antonovsky, 1984). *Cynicism* reflects a generally negative view of human kind, depicting others as unworthy, deceitful, and selfish. Items are statements about the respondent’s interpretation of others’ behaviour in general. Subscales developed by Barefoot et al. (1989) from the Hostility questionnaire are being used. *Vital exhaustion* is a questionnaire developed by Appels & Otten (1992) to assess premonitory symptoms of myocardial infarction. Typical items are “I sometimes feel that my body is like a battery that is losing its power” and “I have the feeling that I cannot cope with everyday problems as well as I used to” *Hopelessness*, defined as negative expectancies about oneself and the future, was measured with the two items developed by Everson et al. (1996): “I feel that it is impossible to reach the goals I would like to strive for” and “The future seems to me to be

hopeless, and I can't believe that things are changing for the better". Depression was measured according to the Centre for Epidemiologic Studies Depression scale (CES-D) (Radloff, 1977). One item from the three-item self-anchoring *Ladder of life* (Cantril, 1965) was used as a measure of current life satisfaction. The instruction was "This ladder has ten steps where the top step represents the best possible life for you, and the bottom step represents the worst possible life for you." Subjects were then asked to rank themselves on the ladder with regards to their current life satisfaction. We also constructed a measure of *optimism* by subtracting item 1 from item 3 of the ladder (where the latter item concerns ranking of life satisfaction in a year from now) resulting in an ordinal scale of a negative, neutral or positive score. *External shame* **(**Sjöberg et al., 2005**)** was measured by the five following questions. "Have you during the last three months experienced… (I) that anyone has treated you in a condescending way? (II) that anyone has ridiculed you in front of others? (III) that anyone has insulted you? (IV) that anyone talked disparaging about you? (V) that anyone around you ignored you? The internal consistency for external shame measured by Cronbach´s Alpha is 0.83 (Åslund et al., 2007). The response alternatives were coded as dichotomous variables where a positive answer was coded as 1. In the analyses, shame was used as a continuous variable expressing any number of different types of shaming experiences that participants could recall during the past three months, ranging from 0 to 5 types.

Statistical analysis

For the first analysis, testing associations between indicators of socioeconomic status, psychosocial factors, and self-rated health, partial correlations with control for age and sex were used to identify significant associations between all variables in relation to the SES measures before the regression analysis. Linear regression was used to examine effects of

psychosocial factors on associations of occupation and subjective status with self-rated health. Each psychosocial factor was separately entered as the final step in the model. This was done in order to calculate the change in variance (ΔR^2) between each step of the analysis. In the first model, control variables (age, sex) were entered, followed by the SES indicator. Secondly, control variables (age, sex) and a psychosocial factor were entered, then the SES indicator. Finally, control variables (age, sex), a psychosocial factor, and the alternative SES indicator was entered, followed by the SES indicator (i.e for subjective status as indicator, occupation was entered as control; for occupation as indicator, subjective status was entered as control). Standardized beta coefficients for each predictor are reported together with ΔR^2 which is calculated as a difference in explained variance between step II and step I of the model. The second part of the analysis included a test of potential predictors or covariates of subjective status. We used four different sets of predictors: an expanded set of traditional socioeconomic factors (respondent's occupation and education, mother's and fathers and partner's education and occupation), self-rated economy, psychosocial factors, and life satisfaction measures (current life satisfaction and optimism). Partial correlations with control for effect of age and sex were used to identify significant relations between potential predictors and subjective status. This was followed by a stepwise multiple regression analysis with the purpose of seeing how much of the total variance of subjective status that was accounted for by relevant variables.

Table 2. Partial correlations with control for effect of age and sex between SES indicators, psychosocial factors and self-rated health.

Variable	**Subjective status**	**Occupation**	**Education**
Subjective status	1.0	0.21**	0.22**
Occupation	0.21**	1.0	0.50**
Education	0.22**	0.50**	1.0
Perceived control	0.25**	0.20**	0.19**
Sense of coherence	0.28**	0.09	0.06
Trust item 1-5	0.28**	0.09*	0.03
Mastery	0.33**	0.10*	0.07
Self-esteem	0.33**	0.11**	0.15**
Optimism	0.06	0.05	0.01
Cynicism	-0.17**	-0.08*	-0.16**
Shame	-0.15**	0.01	0.11*
Vital exhaustion	-0.29**	-0.07	0.00
Depression CES-D	-0.30**	-0.06	-0.07
Hopelessness	-0.32**	-0.22**	-0.16**
Self-rated health	-0.25**	-0.16**	-0.07

* p <0.05; ** p <0.001

Table 3. Linear regression with controls added in two steps, testing the association with self-rated health for two SES indicators respectively. Standardized betas (β) for each status indicator, changes in beta (Δβ) and changes in variance (ΔR^2) are presented.

	Subjective status			Occupation		
	β	Δβ	ΔR^2	β	Δβ	ΔR^2
Model I***	-0.25**		0.06	-0.16**		0.02
Model II ***						
Perceived control	-0.16**	0.09	0.04	-0.09*	0.07	0.01
Sense of coherence	-0.16**	0.09	0.04	-0.13**	0.03	0.01
Trust	-0.20**	0.05	0.04	-0.14**	0.02	0.02
Mastery	-0.12*	0.13	0.03	-0.12**	0.04	0.01
Self-esteem	-0.15**	0.10	0.04	-0.13**	0.03	0.02
Cynicism	-0.22**	0.03	0.05	-0.14**	0.02	0.02
Shame	-0.23**	0.02	0.05	-0.16**	0.00	0.02
Vital exhaustion	-0.11*	0.14	0.02	-0.13**	0.03	0.02
Depression	-0.14*	0.11	0.03	-0.13**	0.03	0.01
Hopelessness	-0.16**	0.09	0.04	-0.10*	0.06	0.01

* p < 0.05; ** p <0.001

*** Model I: Control for age + sex; Model II: Control for age, sex, and each of the psychosocial factors (entered one at a time)

Results

Psychosocial factors and the association between SES indicators and self-rated health

Descriptive data are found in Table 1a and 1b. In Table 2, subjective status is positively correlated with all psychosocial resources (perceived control, sense of coherence, trust, mastery, self-esteem) and inversely correlated with all psychosocial risk factors (cynicism, shame, vital exhaustion, depression and hopelessness). Subjective status is more strongly correlated with self-rated health than occupation, while education shows no significant correlation with self-rated health. All in all, subjective status shows stronger correlations with psychosocial factors than any of the other two SES indicators. As education only showed few significant associations with psychosocial factors, it was removed before the regression analysis, as was our measure of optimism. Table 3 shows associations between subjective status, occupation, psychosocial factors, and self-rated health. In model 2, where each psychosocial factor was entered one at a time, the associations between status and self-rated health are somewhat more attenuated for subjective status than for occupation. In model 3, when we also controlled for the alternative SES indicator, associations did not change further in any significant way (data not shown). In all, associations remain significant for both status indicators in all three models.

Predictors of subjective status

Table 4 presents partial correlations after control for age and sex between subjective status, traditional socioeconomic measures, self-rated economy, psychosocial factors, and life satisfaction measures. Only those measures that showed significant correlations with subjective status are included in the table. All three measures of self-rated economy show strong correlations with subjective status, with the rating of one's household economy as the

very strongest of these three. Mother's occupational status was significantly ($p<0.05$) correlated with subjective status but not with any of the other measures, and was removed from the table due to lack of space. The life satisfaction measure is strongly correlated with subjective status. Table 5a and 5b present results from the stepwise regression model including the factors presented in Table 4, with and without the life satisfaction measure. In Table 5a, life satisfaction alone accounts for 32 % of the total variance of 46 %. Self-rated economy added 10 %, while education, self-esteem, trust, and perceived control added another 4 %. When life satisfaction was removed from the equation (Table 5b), self-rated economy accounted for 30 % of the total variance of 38 % with self-esteem, trust, respondent's own education, mastery and mother's occupation as the other remaining significant variables.

Discussion

Is subjective status biased by psychosocial factors?

In our study, subjective status is positively correlated with education, occupation, self-rated health, and all psychosocial resources, and inversely correlated with all psychosocial risk factors. Our findings of subjective status as correlated with both occupation and education are in line with results from a study by Singh-Manoux et al. (2003) but differ from a study by Adler et al. (2000), where subjective status was significantly correlated with both income and educational degree, but not with occupational status. In line with previous studies, subjective status showed stronger associations with all psychosocial factors than did occupation and education (Adler et al., 2000; Operario et al., 2004; Singh-Manoux et al., 2003). In Table 2, changes in associations between SES and self-rated health when psychosocial factors were added (Model 2) were in general somewhat more distinct for subjective status than for

Table 4. Partial correlation coefficients for associations between predictors and subjective status, and among predictors (control for age and sex).

	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}	X_{14}	X_{15}	X_{16}
X_2	.25**	1														
X_3	.28**	.55**	1													
X_4	.28**	.27**	.31**	1												
X_5	.33**	.55**	.60**	.23**	1											
X_6	.33**	.53**	.60**	.22**	.70**	1										
X_7	-.17**	-.39**	-.46**	-.30**	-.26**	-.28**	1									
X_8	-.15**	-.18**	-.32**	-.12**	-.21**	-.22**	-.23**	1								
X_9	-.29**	-.48**	-.59**	-.28**	-.62**	-.56**	-.25**	-.31**	1							
X_{10}	-.30**	-.48**	-.55**	-.25**	-.58**	-.56**	.22**	.24**	.70**	1						
X_{11}	-.32**	-.51**	-.53**	-.23**	-.52**	-.49**	.24**	.16**	.47**	.49**	1					
X_{12}	.53**	.40**	.45**	.30**	.44**	.39**	-.20**	-.27**	-.49**	-.54**	-.43**	1				
X_{13}	-.56**	-.22**	-.24**	-.23**	-.26**	-.26**	-.13*	.13**	.27**	.28**	.27**	-.43**	1			
X_{14}	-.25**	-.13**	-.11*	-.10*	-.10*	-.06	.03	.11*	.19**	.18**	.14**	-.28**	.45**	1		
X_{15}	-.28**	-.21**	-.17**	-.20	-.14**	-.14**	.08*	.14**	.14**	.17**	.25**	-.24**	.42**	.35**	1	
X_{16}	.21**	.20**	.09*	.09*	.10*	.11*	-.08*	.02	-.07	-.06	-.22**	.10*	-.13**	.00	-.20**	1
X_{17}	.22**	.19**	.06	.03	.07*	.15**	-.16**	.11*	.00	-.07	-.16**	.05	-.12**	.04	-.10*	.50**

* $p < 0.05$; ** $p < 0.001$

X_1: Subjective status; X_2: Perceived control; X_3: Sense of coherence; X_4: Trust; X_5: Mastery; X_6: Self-esteem; X_7: Cynicism; X_8: Shame; X_9: Vital exhaustion; X_{10}: Depression; X_{11}: Hopelessness; X_{12}: Life satisfaction; X_{13}: Self-rated economy; X_{14}: Difficulty paying bills; X_{15}: Cash reserve; X16: Occupation; X17: Education

Table 5a. Stepwise regression model of factors predicting subjective status with control for age and sex. Variable list including life satisfaction. Standardized betas (β) and adjusted R^2.

Predictor	β	R^2
Controls (age, sex)		0.01
Life satisfaction	0.36**	0.32
Self-rated economy	-0.36**	0.42
Education	0.15**	0.44
Trust	0.10*	0.45
Self-esteem	0.12*	0.45
Perceived control	-0.08*	0.46
R^2 total = 46 %		

* $p < 0.05$; ** $p < 0.001$

Table 5b. Stepwise regression model of factors predicting subjective status, with control for age and sex. Variable list excluding life satisfaction. Standardized betas (β) and adjusted R^2.

Predictor	β	R^2
Controls (age, sex)		0.01
Self-rated economy	-0.54**	0.30
Self-esteem	0.23**	0.34
Trust	0.14**	0.36
Education	0.14**	0.37
Perceived control	-0.08*	0.38
Mastery	0.09*	0.38
Mother's occupation	0.06*	0.38
R^2 total = 38 %		

* $p < 0.05$; ** $p < 0.001$

occupational status. However, as both status indicators remained significant throughout all steps of the analysis, and as no psychosocial factor managed to eliminate associations between subjective status and health, subjective status seems not to be uniquely confounded by psychosocial factors. Data may rather lend some support to the mediation hypothesis. In another study of associations between subjective and objective SES measures and health, Singh-Manoux et al. (2003) controlled for general life satisfaction "to avoid reporting bias", though without any further explanation of why they considered this measure to be relevant. When we included life satisfaction in our analysis (Table 3) the association between subjective status and self-rated health was completely eliminated, while associations remained borderline significant for both occupation and education (data not shown).

However, we chose not to include life satisfaction as a factor in our analysis of psychosocial factors as potential confounders in the relation between status and health, as "life satisfaction" is neither a psychological trait nor a psychosocial factor, but rather a complex, composite measure, and in this aspect a construct similar to subjective status. The correlation coefficient between subjective status and life satisfaction was 0.53 in our study (Table 4) emphasizing the fact that these variables could by no means be seen as substitutes for each other, despite the similar construction of their respective scales. As for our measure of shame, we would like to keep this in future studies of subjective status, as it allows for the presence of a socially comparative element in studies of subjective status and health, and because validated measures of social comparison are scarce (Franzini & Fernandez-Esquer, 2006). Table 3 shows that shame did not have any impact on the association between subjective status and self-rated health, nor on the association between occupation and self-rated health, and this is most likely a consequence of the outcome measure at hand. In a study by Starrin et al. (2003) shaming experiences co-varied strongly with mental ill-health among social benefit recipients, and the same pattern was found among the unemployed, while Eales (1989) found an association between shame, depression and anxiety. We now used self-rated health for comparative purposes, but had we used depression or psychiatric diagnoses as outcome, the impact of the shame variable may have turned out differently.

Predictors of subjective status

We found that subjective status was influenced by resource-based measures such as self-rated economy and education, but also by life satisfaction and psychosocial resources represented by self-esteem, trust, perceived control, and mastery. In support of early findings on both subjective and objective elements as important predictors for subjective status (Davis, 1956) our study shows that the process of assigning oneself subjective status cannot

be explained solely in terms of averaging of conventional socioeconomic measures, as has been suggested in some studies (Adler et al. 2000; Jackman & Jackman, 1973; Singh-Manoux et al., 2003). Further, we found no correlations between subjective status and partner's education or occupational status, although this has been suggested as an important factor for status ratings, especially among women (Baxter, 1994). Of the traditional, expanded, socioeconomic measures, only mother's occupational status showed a significant correlation with subjective status. Life satisfaction and self-rated economy were the two single most influential predictors for subjective status in our study, together with psychosocial resources that express various dimensions of trust: social trust; trust in one's own self-worth, as measured by self-esteem; and trust in one's capabilities or internal locus of control, as measured by the perceived control instrument (and also by mastery, in Table 5b). These instruments are not similar in construct, so it is interesting that they manage to capture something of a unified dimension in relation to subjective status. As the Scandinavian welfare states have been noted to have a flatter social gradient in health in relation to objective socioeconomic measures in comparison with other Western societies (Feinstein, 1993) it is possible that the subjective element (for instance, of trust and control) could constitute a larger share of the individual subjective status assessment in a Swedish population than in a sample from a less egalitarian society, where objective markers of material factors (such as wealth and income) may be more crucial to status positioning. One observation in support of the above reasoning is that whereas employment grade was the single most influential factor in the Singh-Manoux et al. (2003) stepwise regression model, occupational status did not enter our final model at any stage, not even when the highly influential life satisfaction measure was removed from the equation. Instead, mother's occupational status turned out to be the most influential factor among the traditional socioeconomic measures, aside from the respondent's own education. Following from

hypotheses on subjective status as more sensitive to current life circumstances than traditional measures (Ghael & Gallo, 2007) the differences in outcome between our study and the Singh-Manoux et al. (2003) study could support this view. Further, no measure of optimism was found to be significant in our study, though it can be discussed whether our construct of optimism is the most appropriate measure for catching an optimistic approach to life. In the study by Singh-Manoux et al. (2003) optimism was included as one of the potential predictors and showed a significant correlation with subjective status. However, the measure of optimism used in the Singh-Manoux study was an item from the perceived control questionnaire (Bobak et al., 1998): "Over the next 5-10 years I expect to have many more positive than negative experiences". We used perceived control in its complete form as an instrument in this study, so perhaps this item ought not to be tested twice. Nevertheless, when we did so, this single-item construct showed no correlation with subjective status.

Methodological issues

We have chosen not to control for lifestyle factors and physiological variables in our analyses, because of the risk of these factors being potential mediators between psychosocial factors and health. We might run the risk of over-controlling if we would include smoking, exercise, diet and alcohol habits (Gallo et al., 2003). Further, as our data are cross-sectional in character we can neither state any causal effects between social status and health, nor claim any causal relations between "predictors" and subjective status. Rather, we should talk about significant covariance in the second analysis. However, as our data from the LSH study has a planned prospective design, we would like to return to these research questions in the future with prospects of establishing causality between subjective status and health. Another aspect of analysis is the difference in variable inclusion. In the Singh-Manoux et al. (2003) study of predictors for subjective status, employment grade, satisfaction with

standard of living, household income, feeling of financial security, and education remained in the final model. The authors concluded that subjective status was not biased by any psychological characteristics, as none of these items contributed significantly to their final model. It may be that the inclusion of more objective status measures in our analysis, such as objective measures of income (had we had the opportunity) would have affected the outcome towards a result more in line with their study. On the other hand, had the Singh-Manoux et al. (2003) study included a larger set of psychosocial factors, the results may have been altered in the direction of our study. As for measurement, we believe that more research is required to establish the dimensions and utility of the self-anchoring ladder, although Operario et al. (2004) showed in a test of 1294 individuals that the test-retest reliability of the status ladder was high, with a 6-month follow-up resulting in a correlation coefficient of 0.62 ($p < 0.01$). We believe that there are strengths to our study in that our sample is a population sample which is representative for the local county but also for the nation. It has an equal representation of the sexes and a broad SES characteristic with an age span relevant for our research question (Siegrist & Marmot, 2004). Also, it could be of special importance to test associations between traditional and subjective measures of status and health in another context than in the United States and United Kingdom, as the Scandinavian countries, among them Sweden, often have shown a more flat social gradient in health than other western societies (Feinstein, 1993) implying that relative differences in health are smaller in Sweden than in other Western European countries. To be able to test this hypothesis further, we encourage future comparative studies on populations from different societies.

Conclusion

We found, in a sample of a middle-aged Swedish population, that effects of psychosocial factors on the association between status and self-rated health were in general somewhat more distinct for subjective status than for occupational status. As no psychosocial factor alone managed to eliminate associations completely between SES and health, neither for subjective status nor for occupation, our results support earlier findings that subjective status is not uniquely confounded by psychosocial factors. As for predictors of subjective status, psychosocial factors are influential to some extent. However, measures of life satisfaction and resource-based circumstances such as self-rated economy make up the major part. The relative impact of material versus psychosocial and life satisfaction predictors on subjective status should be fruitful to explore further in comparative studies between countries with different socio-political profiles, and by using qualitative methods. It is plausible that the impact of material factors on subjective status ratings is more apparent in countries with a less egalitarian socio-political profile.

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