Subjective Socioeconomic Status and Health in Cross-National Comparison

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Abstract

Research has established a robust association between subjective socioeconomic status (SES) and health outcomes, which holds over and above the associations between objective markers of SES and health. Furthermore, comparative research on health inequalities has shown considerable variation in the relationship between different objective markers of SES and health across countries. Drawing on data from 27 countries, we present the first cross-national study on the subjective SES–health relationship. For two health outcomes, namely self-rated health and psychological wellbeing, we are able to confirm that subjective SES is related to health in all countries under study, even when income, education, and occupational prestige are accounted for. Furthermore, we document considerable variation in the strength of the subjective SES–health association across countries. This variation however is independent of country differences in income inequality and country affluence. We conclude by discussing the implications of these findings.

1 Introduction

The relationship between objective and subjective socioeconomic status (SES) is a classic topic within sociology (Evans and Kelley, 2004; Lindemann and Saar, 2014; Marx, 1976; Wright, 1997), which has recently resurfaced in public health research (Adler, 2013; Nobles *et al.*, 2013; Singh-Manoux *et al.*, 2005; Wolff *et al.*, 2010a). While sociological research on the issue long focused on class conflict and the potential for social revolution, public health research has discovered a robust association between subjective SES and a diverse range of health outcomes, usually over and above the influence of objective measures of social status. The general finding appears to be that those with a higher

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self-perception rating of their socioeconomic status enjoy better health (Adler, 2013).

Contrary to objective, long-established measures of socioeconomic status like education, income, and occupational prestige, subjective socioeconomic status is a self-appraisal about their location in a socioeconomic status order (Ross and Mirowsky, 2002). Terms that are sometimes used synonymously are perceived social position (Garbarski, 2010) and subjective social status (Adler *et al.*, 2000; Demakakos *et al.*, 2008).

The great recent interest in subjective SES among public health researchers has two reasons. Firstly, the subjective SES–health link has great potential to shed additional light onto the effects of social hierarchy on health. One strand of research, inspired by the works of Wilkinson (1992), suggests that subjective socioeconomic status reflects the relative rather than absolute position in the hierarchy of a society, and that the perception of inequality and subordination in the hierarchy of a society has damaging effects on health outcomes. Secondly, a more methodological reason for the relevance of the subjective SES–health relationship is the interest in the general performance of subjective SES as a general marker of SES compared to other indicators like income or education. Some public health researchers, for instance Singh-Manoux *et al.* (2005), suggest that subjective socioeconomic status could be a 'cognitive average' of objective SES markers, yielding a more precise measurement of overall SES.

With our study we aim to shed light onto previously understudied aspects of the relationship between subjective SES and health, namely studying how this relationship operates in cross-national comparison. Our study extends existing research in three ways.

Firstly, while existing comparative research on health inequalities has so far focused on objective SES indicators such as education (Eikemo *et al.*, 2008a; Mackenbach *et al.*, 2008), income (Huijts *et al.*, 2010), or class (Eikemo *et al.*, 2008b), our study will extend that line of research by focusing on an innovative SES measure, namely subjective SES. Different indicators of SES cannot be used interchangeably (Torssander and Erikson, 2010) as they all tap at different, loosely related aspects of SES and vary in the strength of their association to health. Given the variation in levels of subjective SES across countries (Lindemann and Saar, 2014), we expect that comparing subjective SES–health gradients across societies is a valuable contribution to the literature.

Secondly, while previous research has established the health effects of subjective SES in a wide variety of population groups (e.g Adler *et al.*, 2000; Quon and McGrath, 2014; Singh-Manoux *et al.*, 2003), studies making use of representative population samples are scarce. Understanding the interplay of objective and subjective SES however requires samples that are free from selection bias, including all SES groups of a population, as associations found in restricted samples might misrepresent those apparent in the general population.

Thirdly, we present the first cross-national study on the subjective SES–health relationship. While not all existing studies have focused on US and UK samples (e.g. Karvonen and Rahkonen, 2011; Nobles *et al.*, 2013), the vast majority has done so, and no existing study has compared differences in the strength of the subjective SES–health relationship across different societies. In fact, a recent review article on subjective SES and health explicitly demanded more cross-nationally comparative research on the subjective SES–health relationship (Euteneuer, 2014). Drawing on comparable data from 27 societies

from all parts of the world, we will explore the variability in the relationship between subjective SES and health. By doing so, we will thus contribute to the recent 'comparative turn' in research on health inequalities (Beckfield *et al.*, 2013a,b; Eikemo *et al.*, 2008a). Comparing the extent of health inequalities across countries allows to put them into context and gives an fresh impression of which inequalities can considered to be 'large' or 'small' (Olafsdottir *et al.*, 2013). Furthermore, comparing health inequalities across societies allows identifying contextual factors such as income inequality or welfare state policies that can affect the size of socioeconomic gradients in health. In turn, comparative health inequalities research can give researchers and policy makers a sense of the malleability of health inequalities.

Exploiting the recently released ISSP 2011 data on "Health and Health Care," we will make use of multilevel modeling (random and fixed effects models) to explore variation in the subjective SES–health relationship across 27 countries, examining two distinct yet interrelated aspects of health, namely self-reported overall health as well as psychological wellbeing.

2 Theoretical background

2.1 The relationship between objective and subjective socioeconomic status (SES)

The relationship between objective and subjective SES has long been a central concern of classical sociology. A traditional materialist argument has been the one of 'direct reflection' (Evans and Kelley, 2004): The objective working conditions and the relationship to the means of production lead the working classes to realize that they are at the bottom of the social hierarchy (Marx, 1975, 1976), leading to an image of a polarized society with a sparsely populated elite at the top and a large working class at the bottom of society. Durkheim (1933) generally concurred with the notion that individuals' objective positions are accurately perceived by them, but maintained that the demand for skilled labor and greater occupational differentiation would give rise to a middle class, creating a more middle-heavy hierarchy in a society. It was Weber (1968) who highlighted the distinction between class and status, arguing that they are different but interrelated aspects of the stratification of a society, with class being primarily determined by relations on the labor market and status being a relational aspect of social honor that is reflected in patterns of association and lifestyles (Chan and Goldthorpe, 2007).

Empirical research, often inspired by social psychology, has empirically backed up Weber's position, often finding objective conditions being a strong yet hardly all-determining predictor of subjective SES (Evans and Kelley, 2004; Jackman and Jackman, 1973). A proposed explanation is that perceptions of one's own social location are strongly shaped by one's social environment such as family and friends. Given innate preferences of homophily, these form a biased sample, always leading individuals to believe they are located towards the middle of the social hierarchy (Evans and Kelley, 2004).

While classical sociology has thus raised the issue of tensions between objective and subjective SES, the consequences of the different aspects of SES have remained largely unexplored.

2.2 The subjective SES–health relationship

Public health research was able to amass substantial evidence for the existence of an association between subjective socioeconomic status and health. Health outcomes linked to subjective socioeconomic position included self-rated overall health (Demakakos *et al.*, 2008; Singh-Manoux *et al.*, 2005; Wolff *et al.*, 2010b), depression (Demakakos *et al.*, 2008; Sakurai *et al.*, 2010; Singh-Manoux *et al.*, 2003), nurse-rated health (Nobles *et al.*, 2013), cortisol (Adler *et al.*, 2000; Wright and Steptoe, 2005), obesity (Goodman *et al.*, 2003), and mortality rates (Kopp *et al.*, 2004). While some studies showed that the association between subjective socioeconomic status and health was explained when accounting for objective markers of SES at least for some outcomes (Singh-Manoux *et al.*, 2003), the majority of studies suggests that subjective SES is associated with health even after controlling for objective SES.

These findings do not only pertain to US or UK samples (Demakakos *et al.*, 2008; Garbarski, 2010; Operario *et al.*, 2004; Seeman *et al.*, 2014; Singh-Manoux *et al.*, 2003, 2005), a number of studies also drew on samples from other regions, such as Finland (Karvonen and Rahkonen, 2011), Hungary (Kopp *et al.*, 2004), Indonesia (Nobles *et al.*, 2013), Japan (Sakurai *et al.*, 2010), Taiwan (Collins and Goldman, 2008), or Canada (Dunn *et al.*, 2006). While many of the studies focused on select populations such as pregnant women (Ostrove *et al.*, 2000; Reitzel *et al.*, 2007), adolescents (Goodman *et al.*, 2001, 2003; Karvonen and Rahkonen, 2011; Quon and McGrath, 2014), older adults (Collins and Goldman, 2008; Demakakos *et al.*, 2008; Garbarski, 2010), participants of an experiment (Cohen *et al.*, 2008), or civil service workers (Singh-Manoux *et al.*, 2003, 2005), relatively few used representative samples of the general population (Nobles *et al.*, 2013; Sakurai *et al.*, 2010; Wolff *et al.*, 2010b).

How can the relationship between subjective SES and health be interpreted? Research has so far pointed out two interpretations. Firstly, the subjective measure picks up aspects of SES that remain unmeasured by objective markers of SES. Subjective SES has been suggested to give a more nuanced reflection of an individual's socioeconomic standing, on one the hand taking into account socioeconomic characteristics that are relatively easy to observe such as income or educational degrees attained (Singh-Manoux *et al.*, 2005). On the other hand, subjective socioeconomic status also reflects more difficult to gauge aspects of socioeconomic status, such as past and future prospects. This explanation is in line with the apparent popularity of using subjective measures to assess the SES of adolescents (Quon and McGrath, 2014) given the difficulties of accurately assessing SES of adolescents who usually have not yet finished their SES attainment process. Secondly, the association of health with the subjective measure reflects the harm to health caused by the cognitive and emotional reactions to lower status positions. Experiencing lower status has been suggested to have negative health consequences in itself (Layte and Whelan, 2014; Marmot, 2004; Wilkinson and Pickett, 2010), operating via stress-related neuroendocrinological pathways (Dickerson and Kemeny, 2004) and poor health behaviors such as smoking or overeating (Layte and Whelan, 2009). These interpretations are not necessarily mutually exclusive, they can both operate at the same time.

An important function of cross-national research is to confirm the presence of relationships found in single-context studies in a variety of contexts. Based on the mass of research findings, we pose the following hypotheses:

H1A: Subjective SES is positively related to health in all countries under study.

H1B: Subjective SES is positively related to health in all countries under study after accounting for objective measures of SES (household income, education, and occupational prestige).

2.3 Country affluence, income inequality, and the subjective SES–health relationship

Two major context factors that are frequently discussed in the literature on social determinants of health are the economic resources of a country, most commonly expressed as GDP per capita, and income inequality, usually expressed as the Gini coefficient. While most of the current literature focuses on the direct effects of country affluence and income inequality on health, we will extend this literature by making a case that both these factors can have moderating effects on the subjective SES–health relationship.

The effects of country affluence on population health have been variously and prominently demonstrated (Deaton, 2013). Populations flourish in terms of health when economic resources are available in great quantity. Societies with greater resources available in the infrastructure can benefit all their members, reducing the importance of individual perceptions for health and wellbeing. In line with the notion of 'A rising tide lifts all boats,' greater wealth in a country might decrease the strength of the subjective SES–health relationship. Semyonov *et al.* (2013) also suggest that the availability of resources in a country could reduce the relationship between SES and health, as individual command over resources becomes less important. The same could be true for the subjective SES–health relationship, as status competition might be less crucial as long as basic needs are met.

H2: The subjective SES–health association is weaker in countries with greater affluence.

Some researchers have however pointed out that the relationship between country affluence becomes unimportant for population as soon as a certain threshold of wealth has been surpassed (Wilkinson, 1997; Wilkinson and Pickett, 2010). After that level has been reached, it is presumably income inequality that becomes the important driver of population health (Wilkinson and Pickett, 2010). The debate about the relationship between income inequality and health has been elaborately discussed in the literature (Beckfield, 2004; Ellwardt *et al.*, 2014; Kondo *et al.*, 2009; Layte and Whelan, 2014; Lynch *et al.*, 2004; Präg *et al.*, 2014), however, here we would like to focus on any moderating effects of income inequality on the subjective SES–health association.

A few previous studies have suggested that income inequality might exacerbate health inequalities (Beckfield *et al.*, 2013b; Semyonov *et al.*, 2013; Wilkinson and Pickett, 2008). Beckfield *et al.* (2013b) suggest a "fundamental cause" (Phelan *et al.*, 2010) explanation for this hypothesized relationship. High-SES invididuals in less egalitarian societies might have even more resources that they can translate more easily into better health, leaving the disadvantaged even further behind in terms of health. Also, given that income can serve as a buffer for the stress individuals face in their lives, low-income individuals in less egalitarian societies should be more stressed and thus less healthy, exacerbating the

health gradient in less egalitarian countries. Semyonov *et al.* (2013) point to the neo-materialist pathway (Lynch *et al.*, 2000) that is suggested to connect income inequality and average population health. According to this pathway, societies with a high degree of income inequality are also characterized by a country's systematic underinvestment across a wide range of human, physical, and social infrastructures. The less well-off are likely to suffer most from these underinvestments as the lack the personal resources to make up for these public underinvestments, thus it is reasonable to expect that health inequalities in countries with greater income inequality should be greater as well. Wilkinson and Pickett (2008) suggest that status competition should be stronger in places characterized by greater income inequality, thus exacerbating health inequalities via a status differentiation pathway.

The empirical evidence, however, has been mixed. Semyonov *et al.* (2013) report that any exacerbating effect of income inequality on the relationship between household wealth and health in their sample of countries is solely driven by the US, for the other, mostly Western European countries in their sample, they do not find any relationship between income inequality and health. Beckfield *et al.* (2013b) study a heterogeneous sample of countries from around the world and find a weak moderating effect of income inequality on the association between income and self-rated health, but a sizable interaction between income inequality, education, and self-rated health in a country: The more unequal a society in terms of income, the stronger the relationship between education and self-rated health. Wilkinson and Pickett (2008) study counties in the US and are able to show that mortality rates for different causes of death which are more strongly related to median county income are also more strongly correlated with income inequality, suggesting that there is indeed a link between income inequality and health gradients.

However, in the context of a subjective SES measure, one could expect that an interaction effect of income inequality and subjective SES would be strong evidence for the interpretation of subjective SES being a marker of the negative health effects of low social status. Wilkinson and Pickett (2010) suggest that greater social inequality in a country makes status comparisons more painful, creating greater stress and leading to worse health outcomes for those lower in the social hierarchy. While evidence for this mechanism is so far mixed (Layte, 2012; Präg *et al.*, 2014), the test proposed here tackles the issue from a new angle.

> H3: The subjective SES–health association is stronger in countries with greater income inequality.

3 Data and method

3.1 Data

Individual-level data Our analyses make use of the recently released 2011 International Social Survey Program (ISSP) module "Health and Health Care" (ISSP Research Group, 2013). Our analysis contains information from respondents from 27 countries from all major regions of the world, namely Australia (AU), Belgium (BE), Bulgaria (BG), Switzerland (CH), Chile (CL), the Czech Republic (CZ), Germany (DE), Denmark (DK), Finland (FI), France (FR),

Croatia (HR), Israel (IL), Japan (JP), South Korea (KR), Latvia (LV), the Netherlands (NL), Norway (NO), the Philippines (PH), Poland (PL), Portugal (PT), Russia (RU), Sweden (SE), Slovenia (SI), Slovakia (SK), Turkey (TR), Taiwan (TW), and South Africa (ZA). The United Kingdom and the United States had to be excluded from our analysis as the focal independent variable, subjective socioeconomic status, was not included in the data set. Realized sample sizes range from about 1,000 to 3,300 respondents per country. Interviews were conducted in the period 2011–2013 and response rates range between 30.2 per cent (Wallonian region of Belgium) and 85.9 per cent (South Africa).

We restrict the age range of respondents to 25–74 years. The reasons for this is that on the one hand we want to ensure most respondents have completed education and on the other we have to account for the fact that some countries used upper and lower age cut-offs during data collection. Sample sizes per country are reported in Appendix Table A1.1.

Country-level information We obtained information on income inequality from the Standardized World Income Inequality Database (SWIID, Solt, 2009) as expressed in Gini coefficients. A Gini of 0 indicates that all households in a country have exactly the same income (low inequality), whereas a Gini of 100 indicates high inequality (one household receives all income in a country, while no other households receive no income at all). Country affluence (GDP per capita, log transformed) information was obtained from the World Bank data base (World Bank, 2014) and information for Taiwan was obtained from the International Monetary Fund (IMF, 2012). Descriptive statistics of country-level covariates are reported in Appendix Table A1.1.

Outcome variables

Self-rated overall health (SRH) was measured with a single item: "In general, would you say your health is ... excellent (4), very good (3), good (2), fair (1), or poor (0)?" Self-rated health is a general assessment of one's health status, not connected to any specific illness, but covering largely physical and functional aspects of health (Idler *et al.*, 1999). It has been shown to predict mortality and morbidity and has high test-retest reliability in a number of studies (Idler and Benyamini, 1997). Furthermore, this variable has been recommended by the WHO for comparative research (De Bruin *et al.*, 1996) and a large number of researchers have followed this advice (e.g. Hildebrand and Van Kerm, 2009; Huijts and Kraaykamp, 2011), especially in the comparative study of health disparities (Beckfield *et al.*, 2013b; Mackenbach *et al.*, 2008; Präg *et al.*, 2014). Research has also shown that different socioeconomic groups evaluate their health in comparable ways (Burström and Fredlund, 2001) and that the associations between objective health indicators and self-perceived health are largely similar across countries (Bardage *et al.*, 2005). In terms of clustering across countries, we find an intraclass correlation coefficient (ICC) of .09. The ICC gives the proportion of the total variance in a dependent variable that is accounted for by the clustering in countries. Put differently, the ICC is a measure of the extent to which respondents living in the same country are more similar to one another than to respondents living in other countries.

As a second outcome variable, we are using a composite measure of *psychological wellbeing* based on three items on psychological distress reported in the

last four weeks. Respondents were asked how often in the past four weeks they 'felt unhappy and depressed,' 'lost confidence in yourself,' and 'felt you could not overcome your problems.' Response options were 'never,' (0) 'seldom,' (1) 'sometimes,' (2) 'often,' (3) and 'very often' (4). A principal component analysis of the three items yields a clear, one-dimensional solution (explained variance 89 per cent); all five items exhibit factor loadings exceeding .88. Cronbach's alpha for the five items is .87 (range $\alpha = .72$ (PH) to $\alpha = .91$ (LT)), indicating high internal consistency in all countries under study. We calculated the average score of the three items, yielding a variable ranging from 0 to 4, with higher values indicating greater psychological wellbeing. For psychological wellbeing, $ICC = .04$. A potential problem is that about 75 per cent of French respondents did not answer the questions about psychological wellbeing.[1] For this reason, we exclude the entire French sample from the analyses of psychological wellbeing.

Both outcome variables correlate with $r = .39$ at the individual level, indicating that they that capture related, yet distinct aspects of health.

Predictor variables

The focal predictor variable of our study is *subjective socioeconomic status*. It was measured with the question: "In our society, there are groups which tend to be towards the top and groups which tend to be towards the bottom. Below is a scale that runs from the top to the bottom. Where would you put yourself on this scale?" Along with this question, respondents were presented a ladder, and rungs were assigned numbers from 1 to 10, with 1 indicating the very bottom and 10 the very top rung of the ladder. This measure resembles the one introduced by Adler *et al.* (2000), which is frequently used in current research (Lindemann and Saar, 2014; Nobles *et al.*, 2013). Cundiff *et al.* (2013) demonstrated the construct validity of the scale. Evans and Kelley (2004) make a case for the cross-national comparability of the question, pointing to 1) the simple, abstract structure of the question, facilitating comparability across countries; 2) the problems that would arise if respondents have to force themselves into a restricted, pre-assigned class-scheme; and 3) its avoidance of in many countries politically charged terms like 'middle class' or 'working class.'

In order to assess *objective socioeconomic status*, we rely on three indicators. *Education* was classified according to the ISCED 1997 typology (UNESCO, 2006), distinguishing between the lower educated (ISCED 0–2), those with medium education (ISCED 3–4), and those with tertiary degrees (ISCED 5–6). *Household income* before taxes was equivalized by dividing it by the square root of the number of household members and transformed into country-specific income quintiles. For those respondents who failed to report their income, we added an additional category to retain them for our analyses (Cohen *et al.*, 2003). *Occupational prestige* was assessed by creating ISEI scores (International Socio-Economic Index, Ganzeboom *et al.*, 1992) based on the ISCO-88 occupational classification. Originally, the ISEI ranges from 16 to 90; to facilitate interpretation, we have rescaled the predictor by dividing it by 10. For respondents who have never worked (and thus do not have an ISEI score), we included a dummy variable and imputed the average ISEI. By doing so, we can

[1] The ISSP User Service has been notified about this and the French researchers responsible for the data collection have been contacted, however, as of yet, no answer has been received.

interpret the coefficient of the dummy indicator as the average difference between those who have never worked and those who have or had a job with an average ISEI (Allison, 2002).

We further control for age (measured in years), sex (1 = female, 0 = male), and a set of dummies to control for legal marital status ('married/civil partnership' (ref.), 'separated/divorced,' 'widowed,' 'single/never married').

3.2 Method and modeling strategy

In order to test our hypotheses, we rely on multilevel (random coefficient) modeling (Snijders and Boskers, 2012; Subramanian *et al.*, 2003). This allows us to account for the fact that the respondents in our sample are nested in countries. Furthermore, we can explicitly model between-country variation while simultaneously accounting for compositional differences between countries. Our models include random intercepts, thus allowing for country-specific constant terms in the regression equations. To facilitate interpretation of interactions and the random components, all continuous predictor variables have been grand-mean centered. Given the focal interest in the cross-national variation of the subjective SES–health relationship while only having a limited sample of countries, we replicated all analyses using two-step OLS regression models as a robustness check (Bryan and Jenkins, 2013; Kedar and Shively, 2005).

4 Results

4.1 Descriptive findings

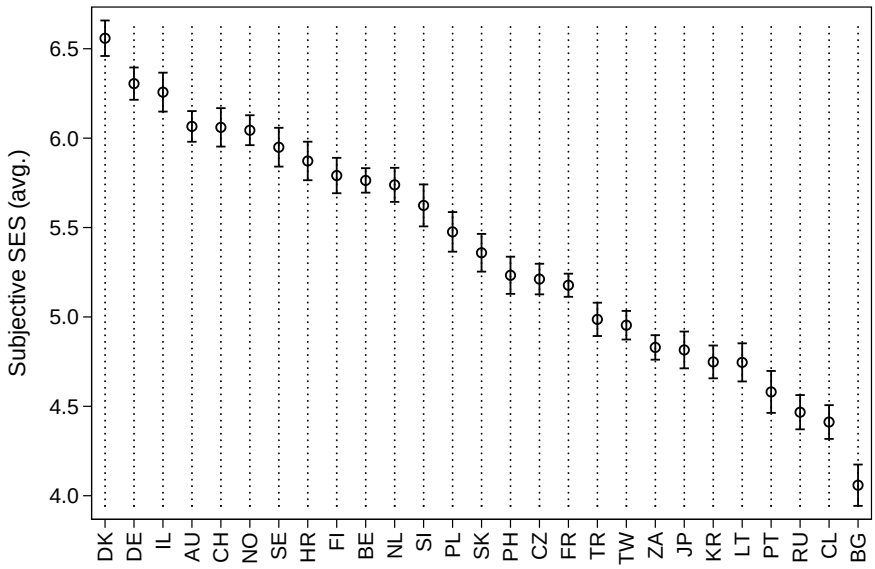

Figure 1: Average subjective SES by country
Note: Error bars denote 95% CI's

Figure 1 displays the country averages in subjective SES across countries. Some interesting patterns emerge. By and large the country averages seem to follow national income, with individuals in high-GDP countries reporting higher subjective SES. However, this pattern is not without exceptions. For instance, Israelis report the third-highest subjective SES, right after the Danes and the Germans. The bottom of the ranking is occupied by Russia, Chile, and Bulgaria, three countries with a comparably low GDP. However, Portugal and Japan occupy the next-highest positions in the ranking.

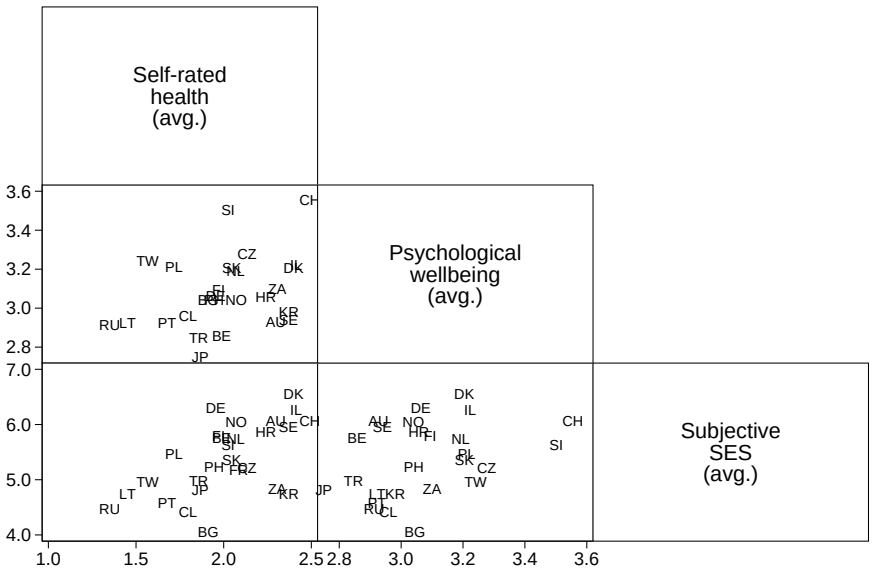

Figure 2: Scatterplot matrix of self-rated health, psychological wellbeing, and subjective SES on the country level

Figure 2 presents descriptive findings on the country-level for the two health outcomes and subjective SES. As already reported for the micro-level, the two health outcomes are related to one another, however, the relationship appears to be rather modest (Pearson's $r = .34$ for 26 countries). We can also see that subjective SES aggregated to the country level predicts the two outcomes, but to varying degrees: While the relationship to self-rated overall health is sizable ($r = .60$), the relationship to average psychological wellbeing in a country is more modest ($r = .34$). Table 1 reports means and standard deviations from the individual-level variables under study.

Table 1: Descriptive statistics of individual-level variables, N = 29,799

Variable	Mean	Std. dev.	Min.	Max.
Self-rated general health	2.04	0.99	0	4
Psychological wellbeing	3.09	0.93	0	4
Subjective SES (centered)	0.00	1.80	-4.40	4.60
Education				
Low Education	0.34	—	0	1
Medium Education	0.39	—	0	1
High Education	0.27	—	0	1
ISEI				
ISEI	0.00	16.0	-27.3	46.7
Never worked	0.08	—	0	1
Household income quintiles				
Q 1 (lowest)	0.15	—	0	1
Q 2	0.16	—	0	1
Q 3	0.16	—	0	1
Q 4	0.16	—	0	1
Q 5 (highest)	0.17	—	0	1
Income missing	0.20	—	0	1
Age (centered)	0.00	13.6	-23.6	25.4
Female	0.56	—	0	1
Marital status				
Married/cohabiting	0.65	—	0	1
Divorced	0.10	—	0	1
Widowed	0.07	—	0	1
Single	0.18	—	0	1

4.2 Multivariate analyses

Table 2 presents coefficients as obtained from random intercept models. In Models 1a and 1b, we find a small yet statistically significant relationship between subjective SES and health. For self-rated general health in Model 1a, the association with subjective SES amounts to 0.13. For each additional rung on the subjective SES ladder, self-rated health increases by 0.13 points. Given the fact that the standard deviation of self-rated health is close to 1.0, this also amounts to an increase of 0.13 standard deviations, a small yet statistically significant effect size. In Model 1b, which has psychological wellbeing as the outcome, findings are strikingly similar, with the subjective SES coefficient also being about 0.13. When standardizing this with the standard deviation of the psychological wellbeing variable (SD = 0.93), it shows that an additional rung on the subjective SES ladder goes along with an increase of 0.14 standard deviations in psychological wellbeing, again a small, but statistically significant effect size. In both models the control variables behave as expected. Age has a negative association with overall health and psychological wellbeing, women reported slightly worse health and wellbeing than men, and married/cohabiting

individuals have better overall health and wellbeing than singles, the divorced, and especially the widowed.

Table 2: Self-rated health and psychological wellbeing regressed on several predictors (random coefficient models)

	(1a) Self-rated general health	(1b) Psychological wellbeing	(2a) Self-rated general health	(2b) Psychological wellbeing	(3a) Self-rated general health	(3b) Psychological wellbeing
Subjective SES	0.130***	0.125***	0.132***	0.124***	0.108***	0.109***
	(42.47)	(39.06)	(20.52)	(16.51)	(16.69)	(14.77)
Education (*ref.* low education)						
Medium education					0.0883***	0.0373**
					(6.62)	(2.64)
High education					0.121***	0.00258
					(6.90)	(0.14)
ISEI					0.00202***	0.00119**
					(5.15)	(2.89)
Never worked (*ref.* works/worked)					-0.00646	-0.0564*
					(-0.29)	(-2.48)
Income (*ref.* lowest quintile)						
Second quintile					0.0817***	0.117***
					(4.47)	(6.13)
Third quintile					0.0842***	0.189***
					(4.56)	(9.77)
Fourth quintile					0.141***	0.207***
					(7.45)	(10.40)
Fifth quintile					0.191***	0.210***
					(9.72)	(10.16)
Income missing					0.134***	0.194***
					(7.38)	(10.16)
Age	-0.0170***	-0.00170***	-0.0169***	-0.00169***	-0.0158***	-0.00118*
	(-39.81)	(-3.79)	(-39.63)	(-3.76)	(-36.27)	(-2.57)
Female (*ref.* male)	-0.0474***	-0.171***	-0.0475***	-0.171***	-0.0413***	-0.161***
	(-4.58)	(-15.77)	(-4.60)	(-15.77)	(-3.96)	(-14.65)
Marital status (*ref.* married/cohabiting)						
Divorced	-0.0528**	-0.195***	-0.0514**	-0.193***	-0.0421*	-0.178***
	(-3.09)	(-10.72)	(-3.00)	(-10.62)	(-2.46)	(-9.77)
Widowed	-0.116***	-0.210***	-0.116***	-0.207***	-0.0924***	-0.179***
	(-5.40)	(-9.34)	(-5.39)	(-9.20)	(-4.30)	(-7.98)
Single	-0.0427**	-0.129***	-0.0417**	-0.124***	-0.0427**	-0.116***
	(-2.93)	(-8.38)	(-2.87)	(-8.04)	(-2.94)	(-7.56)
Intercept	2.072***	3.242***	2.065***	3.242***	1.884***	3.064***
	(42.31)	(98.50)	(42.67)	(94.70)	(36.91)	(83.32)
Variance (intercept)	0.0628***	0.0261***	0.0612***	0.0283***	0.0620***	0.0262***
Variance (residual)	0.758***	0.762***	0.756***	0.759***	0.747***	0.753***
Variance (subjective SES)			0.000836***	0.00117***	0.000809***	0.00107***
Covariance (subjective SES, intercept)			0.001	-0.002	0.00117	-0.00246
Deviance	76431.8	69879.8	76384.4	69807.3	76045.2	69589.4
N countries	27	26	27	26	27	26
N	29,799	27,191	29,799	27,191	29,799	27,191

Notes: t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

In Models 2a and 2b, we allow the slope of subjective SES to vary across countries. While the fixed parameters of the models are hardly affected by this change, model fit however improves substantially. A deviance test between Models 1a and 2a shows that the deviance decreases by 47.37 after adding the random slope for subjective SES and a parameter for the covariance between subjective SES and the random intercept, indicating a highly significant improvement of model fit with $df = 2$, $p < .001$. The same test for Models 1b and

2b yields a similar finding, with a deviance difference of 72.50, $df = 2$, $p < .001$. Substantially, these tests indicate that there is variation across countries in the size of the association between subjective SES and the two health outcomes self-rated health and psychological wellbeing. Furthermore, the small covariance parameters of subjective SES and the random intercept indicate that there is no association between the average health status/average psychological wellbeing in a country on the one hand and the size of the subjective SES coefficient on the other. This is confirmed in upper-row panels of Figure 3, which display the empirical Bayes regression lines of subjective SES on self-rated health (upper left) and psychological wellbeing (lower left).

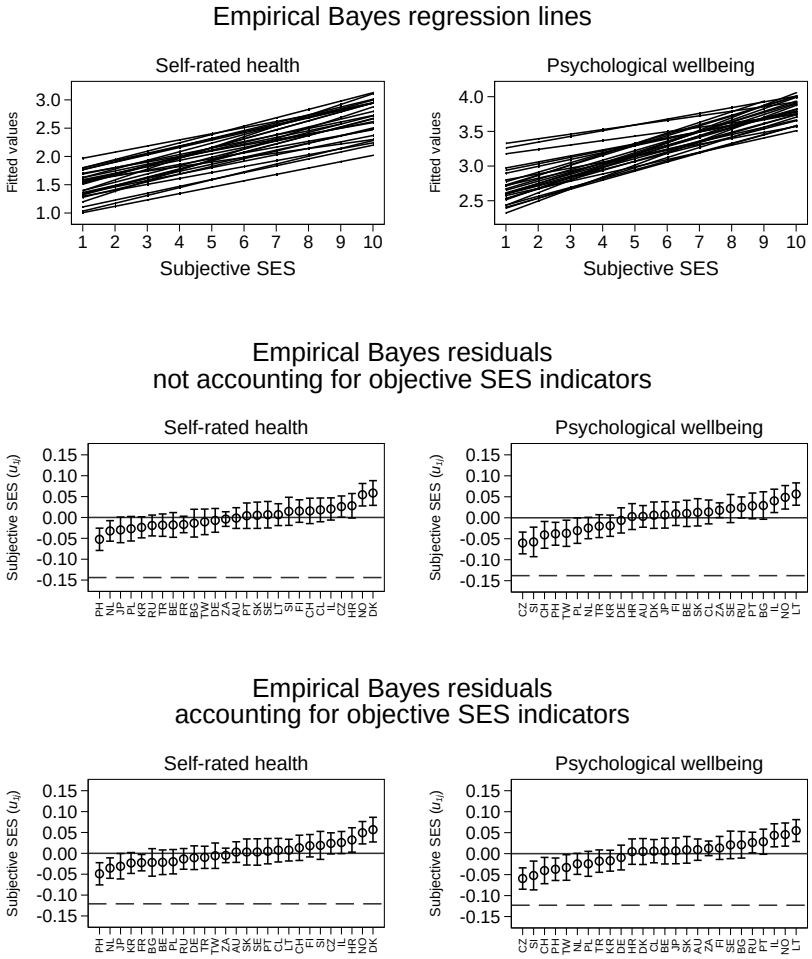

Figure 3: Panels in *top* row: Empirical Bayes regression lines based on Models 2a (left panel) and 2b (right panel) for all countries. *Middle* row: Caterpillar plots of the association between subjective SES and health outcomes across countries based on Models 2a (left panel) and 2b (right panel). *Bottom* row: Caterpillar plots of the association between subjective SES and health outcomes across countries based on Models 3a (left panel) and 3b (right panel)

Notes: Dashed lines in middle and lower panels denote the upper bounds of the 95% CI's of the fixed coefficient of subjective SES, as obtained from Models 2a and 2b (middle row) and Models 3a and 3b (lower row). Error bars denote 95% CI's of posterior means.

The panels in the middle row of Figure 3 give us further insights into the variation of the subjective SES–health association across countries and provide a test of Hypothesis 1A. Hypothesis 1A had posited that the relationship between subjective SES and health exists in all countries of our sample. The panels in the middle row display caterpillar plots of the empirical Bayes residuals as obtained after fitting a random coefficient model (specifically, Models 2a and 2b) for the

health outcomes, including subjective SES (random and fixed component), and age, sex, and marital status as control variables. For the right-hand panel in the middle row pertaining to self-rated health, we see that there is significant variation in the subjective SES–self-rated health association across countries, with the Philippines and the Netherlands showing the weakest effects of subjective SES on self-rated health, and the Nordic countries Denmark and Norway showing the strongest effect. The line towards the bottom of the panel indicates –1 times the upper bound of the 95 per cent confidence interval of the fixed coefficient of subjective SES[2]. Given the non-overlap of the confidence intervals of the empirical Bayes residuals with this line, we can infer that the relationship of subjective SES on self-rated health is significantly different from zero in all countries under study. This finding gives first support to Hypothesis 1A, which had posited exactly that. In the right-hand panel in the middle row, we see a similar pattern for psychological wellbeing: the subjective SES–psychological wellbeing association is statistically significant in all countries under study. The order of countries differs somewhat from the one found for the subjective SES–self-rated health association. In Norway and Latvia, the association between subjective SES and psychological wellbeing is strongest, while it is weakest in the Czech Republic and Slovenia. In sum, our analyses fully support Hypothesis 1A.

In Models 3a and 3b of Table 2, we additionally control for objective SES indicators, namely education, occupational prestige (ISEI), and household income. While the relationship between subjective SES and self-rated health is reduced (to .11) in Model 3a, it remains clearly significantly different from zero. We also see clear and statistically significant gradients with respect to all objective SES indicators. The better educated fare better in terms of self-rated health, those with more prestigious jobs do so as well, and those with higher income enjoy better health than the poor. Those who have never held a job appear to have no health disadvantages when compared to those with an average ISEI score. A similar pattern arises in Model 3b, where psychological wellbeing is the outcome variable. Again, the coefficient of subjective SES drops slightly (to .11), but is still different from zero as indicated by the t-statistic. The coefficients for education show that the relationship to psychological wellbeing is unexpectedly non-linear, with those with a medium degree reporting greater wellbeing than both those in the bottom and the top educational groups. For occupational prestige, we also see a positive relationship to wellbeing, and we can see that those who have never held a job in their report slightly worse psy-

[2]We are fitting a model

$$Y_{ij} = \beta_0 + \beta_{1j}\text{subjective SES}_{ij} + \beta_2\text{controls}_{ij} + u_{0j} + u_{1j} + e_{0ij}$$

where u_{0j} denotes the variation around the intercept β_0 and u_{1j} the slope variation around β_{1j}. From this model, we obtain the empirical Bayes residuals $\hat{u}_{1j}$, which are substantively the country-specific deviations from the fixed coefficient of subjective SES β_{1j}. Hypothesis 1A posits that

$$\beta_{1j} + \hat{u}_{1j} > 0$$

It follows that

$$\hat{u}_{1j} > -\beta_{1j}$$

So in order to test that $\beta_{1j} + \hat{u}_{1j}$ is greater than 0 in all countries at the 99 % level, the lower bound of the 95 % CI of $\hat{u}_{1j}$ must not overlap with -1 times the upper bound of the 95 % CI of β_{1j}.

chological wellbeing than those with a job with an average ISEI score. The coefficients for household income reveal that reported wellbeing increases with each income quintile.

So far, our results show that the subjective SES–health relationship exists over and above the effects of objective SES in our sample of countries, for both self-rated general health and psychological wellbeing, but only for the fixed-effects, average coefficient. In order to ascertain whether this really holds in each and every country of our sample, we turn to the bottom row of Figure 3, which shows two caterpillar plots as obtained from Models 3a and 3b. The two panels of the bottom row of Figure 3 are similar to those of the middle row, the difference is that the caterpillar plots in the bottom row are based on Models 3a and 3b, which control for objective indicators of SES. Thus, the two panels in the bottom row of Figure 3 serve as a test of Hypothesis 1b, which had posited that subjective SES is positively related to health in all countries under study even after controlling for indicators of objective SES. We see that there is no overlap between the confidence intervals of the empirical Bayes estimates for each country and the dashed lines denoting the upper bounds of the 95 per cent confidence intervals of the fixed effect coefficients of subjective SES. This indicates that the relationship between subjective SES and both our health outcomes is greater than zero in all countries in our sample at conventional levels of statistical precision, supporting Hypothesis 1b. When comparing the caterpillar plots in Figure 3 across models, it shows that controlling for objective SES indicators has little impact on the order of countries. For both outcomes, the three countries with the strongest and the weakest associations remain the same after accounting for objective SES.

But how can the variation in the subjective SES–health relationship be explained? Hypothesis 2 posited that country affluence could play a crucial role, decreasing the importance of subjective SES for health outcomes. Table 3 tests this hypothesis in Models 4a and 4b. Model 4a reveals that there is a statistically significant interaction between GDP per capita and subjective SES for self-rated health, but not for psychological wellbeing (Model 4b). Figure 4 plots the predicted slopes for the subjective SES–self-rated health correlation at different levels of subjective SES and GDP per capita. The plot reveals, firstly, that the differences at different levels of GDP are substantially small and, secondly, that the results contradict Hypothesis 2. The more affluent a country is, the greater the health inequalities according to subjective SES. Thus, our findings do not support Hypothesis 2.

Hypothesis 3 posited that there is a cross-level interaction between income inequality and subjective SES: The greater the income inequality in a country, the stronger the relationship between subjective SES and health. Models 5a and 5b of Table 3 put Hypothesis 3 to a test and reveal that there such moderation. The coefficients are small and statistically not different from zero, indicating that the strength of the relationship between subjective SES and health in a country does not depend on its income distribution.

4.3 Sensitivity analyses

In order to assess the robustness of our results, we have conducted various sensitivity checks, which are presented in the Appendix to this chapter. Firstly, we have re-estimated our random coefficient models via two-step OLS regression

Table 3: Self-rated health and psychological wellbeing regressed on several predictors (random coefficient models), cross-level interactions

	(4a) Self-rated general health	(4b) Psychological wellbeing	(5a) Self-rated general health	(5b) Psychological wellbeing
Subjective SES	0.109***	0.109***	0.135***	0.0858***
	(17.87)	(14.69)	(6.03)	(3.36)
Education (*ref.* low education)				
Medium education	0.0886***	0.0374**	0.0885***	0.0372**
	(6.64)	(2.65)	(6.63)	(2.63)
High education	0.120***	0.00282	0.121***	0.00294
	(6.88)	(0.15)	(6.89)	(0.16)
ISEI	0.00201***	0.00120**	0.00202***	0.00120**
	(5.12)	(2.90)	(5.14)	(2.92)
Never worked	-0.00648	-0.0569*	-0.00690	-0.0565*
(*ref.* works/worked)	(-0.29)	(-2.49)	(-0.31)	(-2.48)
Income (*ref.* lowest quintile)				
Second quintile	0.0818***	0.117***	0.0817***	0.117***
	(4.47)	(6.13)	(4.47)	(6.13)
Third quintile	0.0844***	0.189***	0.0842***	0.189***
	(4.57)	(9.76)	(4.56)	(9.76)
Fourth quintile	0.142***	0.207***	0.141***	0.207***
	(7.46)	(10.38)	(7.45)	(10.38)
Fifth quintile	0.191***	0.209***	0.191***	0.209***
	(9.73)	(10.14)	(9.73)	(10.13)
Income missing	0.135***	0.194***	0.134***	0.194***
	(7.44)	(10.14)	(7.41)	(10.13)
Age	-0.0158***	-0.00117*	-0.0158***	-0.00118*
	(-36.31)	(-2.55)	(-36.27)	(-2.57)
Female (*ref.* male)	-0.0412***	-0.161***	-0.0412***	-0.161***
	(-3.95)	(-14.65)	(-3.96)	(-14.65)
Marital status (*ref.* married/cohabiting)				
Divorced	-0.0418*	-0.178***	-0.0420*	-0.178***
	(-2.44)	(-9.77)	(-2.46)	(-9.78)
Widowed	-0.0926***	-0.180***	-0.0925***	-0.179***
	(-4.30)	(-7.99)	(-4.30)	(-7.98)
Single	-0.0427**	-0.116***	-0.0428**	-0.116***
	(-2.94)	(-7.54)	(-2.95)	(-7.55)
GDP per capita (logged)	0.0746	-0.0224		
	(1.43)	(-0.63)		
GDP per capita (logged) × Subjective SES	0.0131*	0.00164		
	(1.99)	(0.21)		
Income inequality			-0.00320	0.000549
			(-0.60)	(0.16)
Income inequality × Subjective SES			-0.000818	0.000694
			(-1.25)	(0.93)
Intercept	1.888***	3.062***	1.987***	3.047***
	(38.11)	(83.37)	(11.11)	(25.48)
Variance (intercept)	0.0575***	0.0258***	0.0612***	0.0262***
Variance (residual)	0.747***	0.753***	0.747***	0.753***
Variance (subjective SES)	0.000674***	0.00107***	0.000754***	0.00103***
Covariance (subjective SES, intercept)	0.000402	-0.00243*	0.00100	-.00252*
Deviance	76040.0	69589.0	76043.4	69588.2
N countries	27	26	27	26
N	29,799	27,191	29,799	27,191

Notes: t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

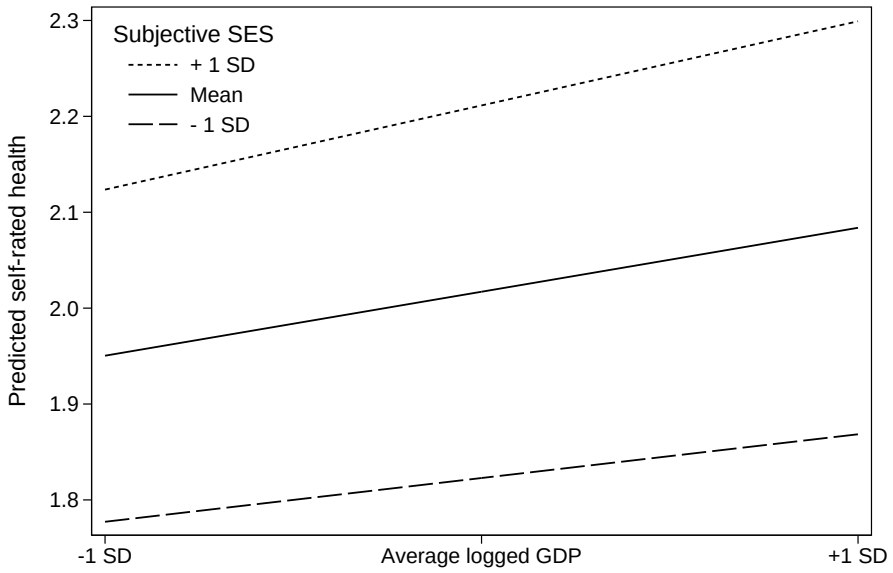

Figure 4: Plot of the GDP per capita × subjective SES interaction for self-rated general health

models. Recent simulations have suggested that estimates of variance components in random effects models are unreliable when the number of countries is small (Bryan and Jenkins, 2013). Bryan and Jenkins (2013) suggest to have at least 25 countries for random effects models with linear outcomes. Although we are above that threshold with our sample of countries, this is only by a small margin. Another advantage of the two-step OLS regression approach is that fitting country-specific models amounts to including random slopes for all predictor variables in our models. The implicit assumption of the Models presented in Tables 2 and 3 is that subjective SES is the only predictor variable which varies in the strength of its relationship to the outcomes across countries. While this assumption is unlikely to be tenable, allowing more slopes to vary and introducing more variance components and covariance terms in our models easily leads to convergence problems. Thus, of the two-step OLS regression approach also tests the robustness of our results when these assumptions are violated. Secondly, we have re-estimated all models with self-rated health as an outcome variable after having excluded France to demonstrate that our results are not dependent on the presence of France in the sample. Results show that our results prove to be robust to these additional checks.

5 Discussion

Research has established a relationship between subjective socioeconomic status (SES) and health that appears to hold over and above the associations health has with objective indicators of SES. Drawing on data from 27 countries, we present the first cross-national study confirming this finding for two different

health outcomes, self-rated overall health and psychological wellbeing. Subjective SES is significantly related to self-rated health and psychological wellbeing in all countries in our sample. This finding holds even after controlling for the objective SES markers income, education, and occupational prestige.

Furthermore, we document significant variation across countries in the subjective SES–health relationship, with stronger relationships in countries such as Norway and a weaker association in the Philippines and the Netherlands. Our results thus add to the emerging body of comparative research on social inequalities in health. Similar to many other studies (e.g. Brennenstuhl *et al.*, 2012), it is difficult to explain patterns of cross-national variation in health inequalities. Hypothesized country-level moderation effects of country affluence and income inequality could not be found. Contrary to what we expected, we find an exacerbating effect of country affluence on the subjective SES gradient in self-rated health. The richer a country, the greater the effect of subjective SES on self-rated health. This can be interpreted in the light of Wilkinson and Pickett's (2010) idea that subjective status considerations are more important for health in more affluent countries than in countries where the fulfillment of basic needs is more important for health. Nonetheless, the questions remain whether, on the one hand, an effect of the size we find is clinically relevant and, on the other hand, why such an effect is not found for our second outcome variable psychological wellbeing, which should presumably be more sensitive to status considerations than a measure of general health.

The absence of a moderating effect of income inequality was also unexpected, as greater social inequality in a country could in principle make perceived low social status more painful. However, this notion could not be corroborated. The strength of the association between subjective SES and self-rated health as well as psychological wellbeing is independent of the income distribution in a country. This contradicts the findings of Wilkinson and Pickett (2008), who suggested that greater income inequality exacerbates health inequalities due to more status competition. While Wilkinson and Pickett (2008) examined average income and mortality rates in US counties, we put their explanation to a more stringent test, looking at subjective SES, self-rated health, and psychological wellbeing, three indicators much closer to the hypothesized status competition mechanism than average income and aggregate mortality. Future research trying to understand variation in the subjective SES–health gradient could consider examining cultural differences between countries (e.g. Hofstede, 2001), for instance the distinction between what has been called tight and loose cultures (Gelfand *et al.*, 2011; Harrington and Gelfand, 2014). 'Tight' cultures are characterized by strong social norms and formal hierarchies, which might buffer the negative health effects of low subjective SES.

Nonetheless, there are a number of limitations of our study that need to be acknowledged. Given the reliance on cross-sectional and self-reported data, a widespread problem in cross-national research on health inequalities (Olafsdottir *et al.*, 2013), it is difficult to make causal claims based on the findings at hand. However, previous longitudinal research has been able to establish that the subjective SES–health relationship can only partially be attributed to reverse causality (Garbarski, 2010; Nobles *et al.*, 2013). Another aspect of endogeneity that could affect our findings is omitted variable bias. Previous research has speculated whether the relationship between health (especially self-reports) and subjective SES could be spurious, as both could be affected by an unmeasured

individual characteristic like a personality trait (Singh-Manoux *et al.*, 2005). However, a recent experimental study was able to show that the relationship between subjective SES and self-rated health was not affected by an experimental mood induction (Kraus *et al.*, 2013), giving support to the notion that negative mood is not a confounder of the subjective SES–self-reported health relationship and strengthening the case for using self-reports of health in our study.

Appendix

This Appendix presents additional descriptive statistics and a variety of sensitivity analyses of the results presented in the main text of the chapter.

Country-level descriptive statistics

Appendix Table A1.1 reports country-level descriptive statistics for the Gini coefficient and GDP per capita and gives individual-level sample sizes per country.

Table A1.1: Descriptive statistics of country-level variables, $N = 27$

Country	Gini coefficient	GDP per capita	Sample size
AU	33.9	36,654.20	1,280
BE	25.1	36,877.00	1,011
BG	35.8	4,570.51	776
CH	30.2	55,005.90	926
CL	49.7	9,030.74	1,155
CZ	25.6	14,402.00	1,393
DE	30.3	37,321.80	1,234
DK	27.0	46,699.20	1,062
FI	25.5	38,921.70	1,038
FR	28.9	34,405.40	2,461
HR	27.6	10,711.30	813
IL	37.0	22,273.20	871
JP	30.5	36,160.80	882
KR	31.4	21,226.00	1,284
LT	36.4	9,566.36	911
NL	26.8	41,305.50	1,024
NO	22.2	64,534.00	1,386
PH	41.3	1,429.75	998
PL	29.7	10,387.40	868
PT	33.2	18,442.70	779
RU	45.2	6,633.07	1,076
SE	21.9	43,749.90	796
SI	24.2	19,147.80	764
SK	24.0	14,672.30	845
TR	37.5	8,413.32	1,068
TW	30.5	37,719.60	840
ZA	63.5	5,923.99	2,111
Average	32.4	25,414.28	1,098
SD	9.2	17,234.10	—

Note: Gini from Solt (2009), GDP per capita from World Bank (2014). GDP per capita for Taiwan taken from IMF (2012)

Subjective SES–health association based on country-specific OLS regression models

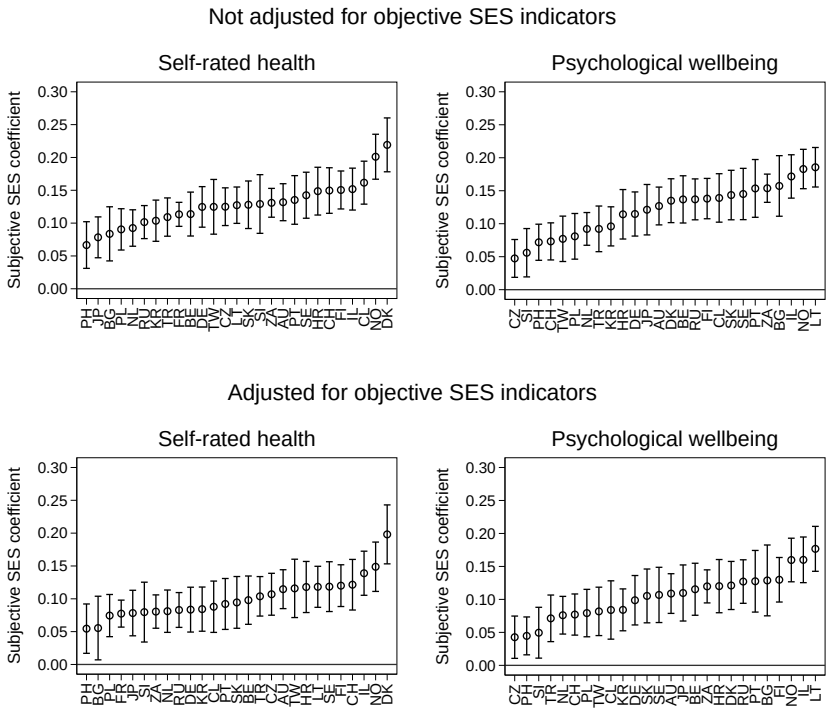

Figure A1.1: Association between subjective SES and health outcomes across countries, based on country-specific OLS regression models. *Upper* row: not adjusting for objective SES indicators. *Lower* row: adjusting for objective SES indicators.

Notes: Error bars denote 95% CI's of OLS coefficients. All models control for age, sex, and marital status.

Figure A1.1 tests Hypotheses 1A and 1B using country specific OLS regression models instead of random coefficient models for the entire sample. The panels in the upper row of Figure A1.1 present the unstandardized regression coefficients of subjective SES along with their 95 per cent confidence intervals, stemming from country-specific OLS models which additionally controlled for age, sex, and marital status. It shows that the subjective SES coefficients are greater than zero at conventional levels of statistical precision in all countries of our sample for both outcome variables, thus supporting Hypothesis 1A. A comparison with the panels in the middle row of Figure 3 show that the ordering of countries is similar regardless of the estimation procedure.

The panels at the bottom of Figure A1.1 report the same parameters as those in the top row, however now derived from models additionally controlling for objective indicators of SES education, occupational prestige, and household income. Again, the 95 per cent confidence intervals indicate that the subjective

SES–health association can be found in all countries in our study, even when objective indicators of SES are accounted for. This finding supports Hypothesis 1b. Also, a comparison with the corresponding panels at the bottom of Figure 3 reveals that country order is similar for both approaches.

Cross-level interactions estimated via the two-step approach

Figure A1.2 reports tests of Hypotheses 2 and 3 using the two-step OLS regression approach. For each country sample and each outcome variable, an OLS regression model including subjective SES and controlling for the objective SES indicators as well as age, sex, and marital status was estimated. The unstandardized subjective SES coefficients were then regressed on GDP per capita and against the Gini coefficient. Results are reported in the scatterplots displayed in Figure A1.2. The panels in the top row of Figure A1.2 confirm the findings reported in Models 4a and 4b of Table 3 as well Figure 4. There is a positive correlation between country affluence and the strength of the subjective SES–self-rated health correlation, but not for psychological wellbeing, thus Hypothesis 2 is not supported.

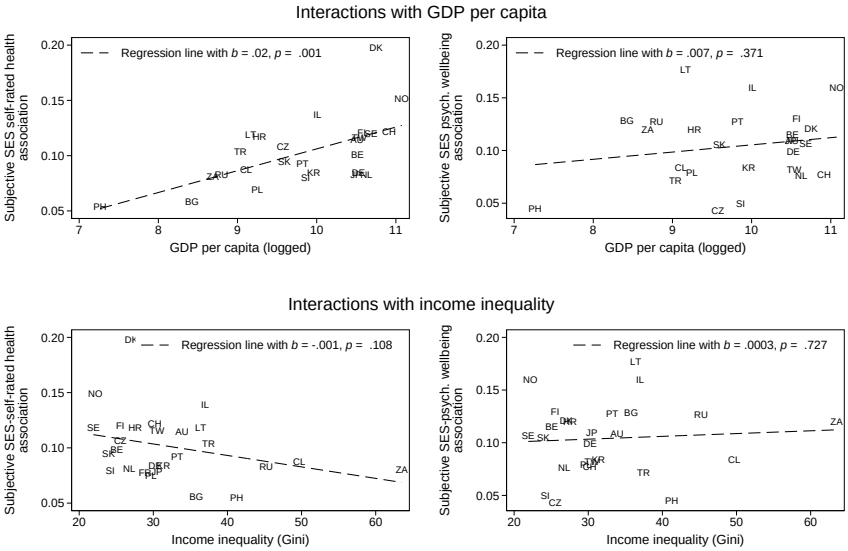

Figure A1.2: Scatterplots of subjective SES–health associations against country-level predictors, based on country-specific OLS models. *Upper* row: logged GDP per capita. *Lower* row: income inequality.

Note: All models control for education, occupational prestige, household income, age, sex, and marital status.

The panels in the bottom row of Figure A1.2 display another test of Hypothesis 3, which had suggested that the subjective SES–health relationship is stronger in less egalitarian countries. Identical to the results reported in Models 5a and 5b of Table 3, no support for Hypothesis 3 is found, as no clear pattern emerges from the plots.

Models for self-rated health excluding France

Table A1.1 replicates the findings for self-rated health as reported in Tables 2 and 3 after excluding the French sample. The French sample has been excluded from the Models predicting psychological wellbeing. To show that our findings for self-rated health are not an artefact of including the French sample, we report our findings also after dropping the French respondents. Table A1.1 shows that the results from our Models are robust against excluding France.

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Table A1.2: Self-rated health and psychological wellbeing regressed on several predictors excluding the French sample

	(1) Self-rated general health	(2) Self-rated general health	(3) Self-rated general health	(4) Self-rated general health	(5) Self-rated general health
Subjective SES	0.132***	0.133***	0.110***	0.112***	0.141***
	(40.65)	(20.11)	(16.63)	(18.42)	(6.33)
Education (*ref.* low education)					
Medium education			0.0945***	0.0950***	0.0948***
			(6.63)	(6.67)	(6.65)
High education			0.121***	0.121***	0.121***
			(6.52)	(6.50)	(6.51)
ISEI			0.00190***	0.00188***	0.00189***
			(4.57)	(4.53)	(4.55)
Never worked (*ref.* works/worked)			-0.00944	-0.00970	-0.0101
			(-0.41)	(-0.42)	(-0.44)
Income (*ref.* lowest quintile)					
Second quintile			0.0759***	0.0760***	0.0759***
			(3.94)	(3.94)	(3.93)
Third quintile			0.0841***	0.0842***	0.0840***
			(4.31)	(4.31)	(4.30)
Fourth quintile			0.135***	0.135***	0.135***
			(6.71)	(6.71)	(6.71)
Fifth quintile			0.186***	0.186***	0.186***
			(8.93)	(8.93)	(8.94)
Income missing			0.134***	0.136***	0.135***
			(6.97)	(7.03)	(7.00)
Age	-0.0176***	-0.0175***	-0.0163***	-0.0164***	-0.0163***
	(-38.75)	(-38.59)	(-35.29)	(-35.33)	(-35.28)
Female (*ref.* male)	-0.0494***	-0.0493***	-0.0437***	-0.0436***	-0.0436***
	(-4.52)	(-4.51)	(-3.95)	(-3.94)	(-3.95)
Marital status (*ref.* married/cohabiting)					
Divorced	-0.0537**	-0.0515**	-0.0428*	-0.0424*	-0.0426*
	(-2.93)	(-2.81)	(-2.33)	(-2.31)	(-2.33)
Widowed	-0.120***	-0.120***	-0.0960***	-0.0963***	-0.0962***
	(-5.29)	(-5.30)	(-4.24)	(-4.25)	(-4.25)
Single	-0.0436**	-0.0425**	-0.0421**	-0.0420**	-0.0422**
	(-2.81)	(-2.73)	(-2.71)	(-2.71)	(-2.73)
GDP per capita (logged)				0.0723	
				(1.35)	
GDP per capita (logged) × Subjective SES				0.0154*	
				(2.39)	
Income Inequality					-0.00307
					(-0.57)
Income Inequality × Subjective SES					-0.000930
					(-1.44)
Intercept	2.069***	2.061***	1.881***	1.887***	1.981***
	(40.76)	(41.01)	(35.38)	(36.39)	(10.76)
Variance (intercept)	0.0649***	0.0635***	0.0645***	0.0602***	0.0638***
Variance (residual)	0.776***	0.774***	0.765***	0.765***	0.765***
Variance (subjective SES)		0.000839***	0.000792***	0.000597***	0.000715***
Covariance (subjective SES, intercept)		0.00186	0.00145	0.000581	0.00128
Deviance	70380.9	70337.1	70046.9	70040.6	70044.8
N countries	26	26	26	26	26
N	27,191	27,191	27,191	27,191	27,191

Notes: t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

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