

THE INFLUENCE OF OBJECTIVE AND SUBJECTIVE SOCIAL CLASS ON SUBJECTIVE  
WELL-BEING: A META-ANALYTIC REVIEW

BY

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DISSERTATION

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## ABSTRACT

Debates surrounding the varying link between social class and subjective well-being (SWB) have pointed to limitations of the objective measures of social class in elucidating the precise influence of material resources on SWB. This has resulted in a shift toward examining one's perception of economic standing relative to others, or subjective social class, and how it relates to SWB. The present meta-analysis sought to achieve two goals: First, to provide an estimate of the overall effects yielded by both objective and social class indices, thereby testing the relativity hypothesis that predicts that subjective social class relates to SWB more strongly than objective social class. Second, to elucidate the relevance and utility of each index in influencing SWB by examining moderators that would influence how strongly the objective and subjective social class index relates to SWB. The current meta-analysis included 334 independent samples, with the inclusion of more recent samples compared to earlier meta-analyses. The results revealed that the subjective social class-SWB association ( $r = .21$ ) was about twice as large as the objective social class-SWB association ( $r = .11$ ), supporting the relativity hypothesis. Furthermore, the subjective social class-SWB association was relatively stable across moderators compared to the objective social class-SWB association. Implications of these findings on social class and SWB research are discussed.

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## CHAPTER 1: INTRODUCTION

“Comparison is the thief of joy.” – Dwight Edwards

The notion that having more money leads to greater happiness is widely held by lay people. However, findings from numerous empirical research and meta-analytic review have challenged this notion by revealing a relatively weak link between one’s social class background and happiness, or more generally, subjective well-being. Subjective well-being (SWB) is a phenomenon that is broadly characterized by individual’s emotional experiences and cognitive judgments of both domain-specific satisfaction and global life satisfaction (Diener, Suh, Lucas, & Smith, 1999). Traditionally, research that has examined the link between social class and SWB has utilized income level (e.g., Diener, Sandvik, Seidlitz, & Diener, 1993; Howell & Howell, 2008) educational attainment (e.g., Witter, Okun, Stock, & Haring, 1984), or combinations of these indices (e.g., Haring, Stock, & Okun, 1984; Pinqart & Sørensen, 2000) to index one’s social class background. Across these studies, the observed links have varied substantially, depending on the the level of analysis and stage of economic development of the country. Specifically, while cross-nation analyses have yielded moderate to large associations ( $r = .60$  to  $.84$ ; Diener, Diener, & Diener, 1995; Schyns, 1998; Veenhoven, 1991), within country analyses tended to produce small to moderate links, for both wealthy nations such as the United States, Australia and some European countries ( $r = .06$  to  $.15$ ; Diener & Oishi, 2000; Diener et al., 1993; Easterlin, 1995, 2001; Rojas, 2004), and developing nations such as China, India and Russia ( $r = .10$  to  $.36$ ; Howell & Howell, 2008).

Several theories have been put forth to explain these variations, with several moderating variables examined, such as the level of poverty, change in income, expectations, type of income assessed, and demographic variables such as age and gender, to name a few. Furthermore, in

these examinations, social class has mostly been assessed as the individual's objective material resources, derived from sources of income (e.g., personal income, household income), educational attainment, or a composite of these indices. Despite the overall conclusion from these studies that material resources exert a small to moderate influence on SWB, material prosperity continues to be a highly desired and pursued goal in many modern societies, with greater emphasis on economic growth and individuals working longer hours than before to elevate one's economic standing (Diener, Tay, & Oishi, 2013). Since the belief that material resources promise a good life is still widely endorsed, this signals the importance of examining the veracity of this belief in the light of newer perspectives and methods.

In this current dissertation, I aim to re-examine the link between social class and SWB by taking a broader perspective on how social class can be judged and experienced. Drawing on the emergent perspective in social class research, I propose that besides considering social class as the absolute objective resources that individuals have, or *objective social class*, relative perceptions of social class that arise from these objective resources—that is, one's *subjective social class* (Adler et al., 2000; Cohen et al., 2008; Kraus, Piff, Mendoza-Denton, Rheinschmidt, & Keltner, 2012)—contributes to how people perceptually experience social class, and potentially their SWB. Furthermore, as one's psychological reality are often shaped by their construal of the environment, based on relative standards and social comparisons (Festinger, 1954), I argue that the notion that money and resource buy one greater happiness would hold more strongly when one considers subjective perceptions of social class instead of their objective social class status.

## CHAPTER 2: THEORIES EXPLAINING THE SOCIAL CLASS AND SWB LINK

The prevailing finding that one's economic standing may not shape a person's SWB as strongly as previously thought has been coined the *Easterlin Paradox*, which states that the observed link between income and subjective well-being is weak, particularly at higher levels of income (Easterlin, 1974). Several theories have been proposed to explain this paradox. In the following, I will outline the theories that have received most empirical attention, which I broadly categorize as two classes of explanations. The first explanation considers differences in the role that objective material resources play for the SWB of lower-class and upper-class individuals. The second explanation considers differences in how social class can be subjectively interpreted and defined by individuals, regardless of their objective social class status.

*How Material Resources Shape SWB.* According to *Need Theory*, material resources play a fundamental role in shaping individuals' SWB by fulfilling their basic physiological needs, such as food, sanitation, and shelter (Diener & Biswas-Diener, 2002; Diener & Lucas, 2000; Veenhoven, 1988; 1991). As such, because lower-class individuals often face difficulties with reaching the basic subsistence level, having more material resources matters significantly for enabling them to sustain their livelihoods and subsequently, enhances their well-being. On the other hand, as upper-class individuals are past their basic subsistence level, additional material resources tend to provide diminishing returns on their well-being (Veenhoven, 1991). Therefore, need theory postulates a curvilinear relationship between individuals' social class and SWB, such that having more resources enhances lower-class individuals' SWB more, but this enhancement effect diminishes for upper-class individuals' SWB. Numerous studies conducted across different countries have provided support for this prediction (e.g., Biswas-Diener & Diener, 2001; Camfield, Choudhury, & Devine, 2009; Diener, Oishi, & Lucas., 2003; Fuentes &

Rojas, 2001; Kim, 1998; Royo and Velazco, 2006; Zavisca & Hout, 2005). Nonetheless, though more recent research failed to provide similar support (Diener et al., 2013), to which they suggested that local comparisons may be a more relevant standard for people to judge their incomes.

If objective resources have little utility in fulfilling upper-class individuals' fundamental needs, does this mean that additional objective resources will cease to have an effect on their SWB? According to the *Relativity Hypothesis*, since reaching subsistence level is no longer of concern for upper-class individuals, their objective resources are construed, instead, by comparisons with various *wealth standards*, such as other's objective resources, past economic standing, or with their future aspirations of acquiring more resources (Easterlin, 1974; 2001). In other words, as long as their resources are perceived to be above these wealth standards, such perceptions will elevate their SWB. From this perspective, it is the perception of discrepancies in one's objective material resources to various wealth standards, or *relative objective resources*, that is more strongly linked to upper-class individuals' SWB. Although the relativity hypothesis was originally used to explain the weaker link between objective resources and SWB observed for upper-class individuals, the same reasoning has been extended to describe the general psychological process of perceiving one's social class.

*The Psychological Process of Perceiving Social Class Status.* Regardless of the absolute amount of resources that one has, the general process of perceiving one's own social class can also involve comparisons of their current resources with the different wealth standards described earlier, as well as the economic status of others around them. In the case of engaging in comparisons with their past economic status on SWB, *Adaptation Theory* argues that even as individual's income level increases, they often adapt to this new level eventually, thus washing



out the resource influences on their SWB (Brickman & Campbell, 1971; Brickman, Coates, & Janoff-Bulman, 1978). As such, this theory suggests that SWB may be more strongly linked to changes from individuals' past economic status rather than their current absolute economic status (Diener et al., 1993; Graham, 2005). Similarly, comparisons with wealth standards based on one's aspirations for greater wealth in the future can elicit perceptions of discrepancy between one's current economic status and future aspired economic status and in turn, influence their judgments of SWB (Stutzer, 2004). There can also be *Expectancy effects*, that result from comparison to a standard shaped by the knowledge of an individual's or the ingroup's past and present circumstances. For instance, individuals from economically disadvantaged groups (e.g., African Americans, less educated) may simply have lower expectations of their life circumstances based on their knowledge that members of their social group typically do not earn as much. In this case, their lower expectancies would mean that a given level of income generates greater SWB for them compared to those who are relatively less disadvantaged (Diener et al., 1993). Although some empirical work has examined the influence of income or objective resources relative to one's past, future and expectations on their SWB, the strength of these links has not consistently differed from the links between absolute income and SWB (e.g., Diener et al., 2013; Diener et al., 1993, Hagerty, 2000; Stutzer, 2004).

Another important wealth standard that individuals may rely on to evaluate their social class is the economic status of others around them (Easterlin, 1974; 2001; Diener et al., 2013). According to *Social Comparison Theory*, individuals are motivated to evaluate themselves on a domain by comparing themselves to proximal or similar others in the same domain, especially if there are no clear or objective standards to base their evaluations on (Festinger, 1954; Suls, Martin, & Wheeler, 2000). This motivation is particularly relevant for judgments of one's social

class because people are not necessarily aware of the average wealth of others and the classification of lower-class, middle-class or upper-class can differ by factors such as the time period and location. For instance, a person could hold a high paying job with a bachelor's degree in the past or in a region where most people are uneducated, but the person could no longer hold a comparable high paying job today or in a region where most people have a bachelor's degree. In addition, the perceptions of one's wealth relative to proximal others may be more practically and psychologically meaningful when it comes to dealing with daily social interactions with these close others. For example, knowing that a co-worker that you interact with frequently is wealthier than you will have a greater bearing on your life satisfaction and happiness than knowing that the CEO of a company is wealthier than you. Essentially, the social comparison perspective suggests that a person's perception of social class that is derived from comparing with the wealth of proximal others is more meaningful and more consequential for SWB.

Numerous studies have tested this theory by examining the links between *relative objective resources* and SWB. Across these studies, relative objective resources have been conceptualized in different ways, such as comparing the link between income levels and SWB in poor versus rich regions (e.g., Diener et al., 1993), computing a difference or ratio between individual's current income level and the mean income of the town or community they live in (e.g., Clark & Oswald, 1998), or most commonly by computing the logarithm of individual's current income (e.g., Clark, Frijters, & Shields, 2008; Cheung & Lucas, 2015; Diener et al., 2013; Kahneman & Deaton, 2010; McBride, 2001). In most of these studies, the association between relative objective resources and SWB was hypothesized to be stronger compared to the association between absolute objective resources and SWB. However, support for this hypothesis

have been mixed across studies. Some explanations have been proposed to account for the weak support for this theory, which I outline in the following section.

## 2.1 Problems with Examining the Relative Objective Resource-SWB link

As discussed in the previous section, although most of research predicted that relative comparisons of economic status would relate to SWB more strongly than absolute economic status, this prediction did not always hold up across different empirical studies. Two problems have been proposed to explain the lack of support for this hypothesis. First, while social comparison theory assumes that individuals generally tend to compare themselves to proximal and similar others, the effect of comparison-based social class may differ based on the target of comparison. However, in most of these studies assessing relative economic status, the target for comparison is not always clear (Diener et al., 1993). In particular, the operationalizations of relative social class used in this past research were mainly difference scores or ratios between one's income and the mean level of income in a region (e.g., Clark & Oswald, 1998), the logarithm of one's current income level (e.g., Clark, Frijters, & Shields, 2008; Cheung & Lucas, 2015; Diener et al., 2013, Kahneman & Deaton, 2010; McBride, 2001), by which the comparison targets are crude averages or difficult to capture or distinguish. The lack of a clear comparison target in these assessments may mean that the effects on SWB based on relative comparisons may be masked by comparisons that are non-consequential to one's everyday experience.

Relatedly, although these operationalizations of relative objective resources conceptually capture the discrepancies between one's income and a specific standard, a second problem is that the discrepancies obtained may reflect discrepancies from many different standards, including past income and future aspirations, and not necessarily the wealth of proximal others. In other words, these relative assessments, at best, only reflect objective comparisons, and not necessarily

subjective social comparisons that people actually engage in psychologically (Diener et al., 1993). As such, existing research testing the relativity hypothesis may be low in conceptual validity, which may in part, account for the mixed evidence that has been obtained for the theory.

### CHAPTER 3: SUBJECTIVE SOCIAL CLASS AND SWB

Social class can be conceptualized as involving two distinct processes. The first process characterizes social class as the objective experience of having levels of material resources, acquired from sources such as individual's income or financial wealth (Drentea & Lavrakas, 2000), educational attainment (Snibbe & Markus, 2005) and occupational status (Oakes & Rossi, 2003). This objective index of social class is typically assessed by self-reports of any of these forms of material resources, with its effects on outcomes examined individually or as composites. This index is most often used in SWB research. The second process is one that characterizes social class as a subjective experience derived from individual's judgment of their own rank relative to others within a social class hierarchy, known as one's subjective social class (Adler et al., 1994; Cohen et al., 2008; Kraus, Piff, & Keltner, 2011). Subjective social class is typically assessed by individual's perceptions of how much material resources they have compared to others in society, such as indicating where they stand on a social ladder that represents a target social group (e.g., people in school, within the community, in the country; Adler et al., 2000; Kraus, Piff, & Keltner, 2009), self-reports of one's own perceived or self-identified social class as lower-, middle-, or upper-class (e.g., Bernstein, 1971; Mahalingam, 1998), or direct comparisons of one's material resources relative to others in the local community (Boyce, Brown, & Moore, 2010).

Past research in the physical health domain has established that subjective social class tends to predict affective health, physical self-rated health, and a variety of clinical outcomes more strongly than objective social class (Adler et al., 2000; Demakakos, Nazroo, Breeze, & Marmot, 2008; Kraus, Adler, & Chen, 2013; Operario, 2004; Singh-Manoux, Adler, & Marmot, 2003; Singh-Manoux, Marmot, & Adler, 2005). The predictive strength of subjective social class

over objective social class is explained by the following reasons: First, compared to objective social class, subjective social status is a broader conceptualization of social class that includes both current objective economic circumstances as well as other social circumstances, such as one's opportunities and life chances (Jackman, 1979; Singh-Manoux et al., 2003). As such, subjective social class may take into account the other aspects of one's social class experience, such as negative affective experiences and psychological stress related to subordinate status (Adler et al., 2000; Sapolsky, 2005; Wright & Steptoe, 2005), that can act as psychological mediators to shape health outcomes. Relatedly, some research has shown that as income inequality tends to exacerbate the experience of relative economic disadvantage between individuals in society, greater income inequality is often positively associated with country-wide mortality rates (Kawachi & Kennedy, 1997; Kennedy, Kawachi, & Prothrow-Stith, 1996; Wilkinson, 1992). This pattern of results suggests that as societies that experience increasing income inequality, subjective perceptions of class difference may widen, and thus, more adequately capture the experience of relative disadvantage in comparison to objective resource indices and subsequently exert a stronger influence health and mortality. Finally, as judgments of one's subjective social class largely involves engaging in the processes of social comparison (Taylor & Brown, 1988), where individuals compare themselves to a specific target or social group when assessing their social position, such comparison process may also elicit feelings of being judged by others. Together, the local proximal comparisons coupled with the socio-evaluative aspects of subjective social class, to a large extent, shape individuals' psychological realities more strongly than their objective status (Festinger, 1954; Anderson, Kraus, Galinsky, & Keltner, 2012), resulting in a greater bearing on physical health outcomes.

In many ways, the subjective social class perspective dovetails with the relativity hypothesis in suggesting that local social comparisons tend to shape one's experiences more strongly than global ones, and SWB may very well depend on relative comparisons of wealth, beyond one's absolute objective material resources at a societal level. Furthermore, more recent theorizing of subjective social class rank posits that social environments are often pervaded by social class symbols (e.g., the food we eat, where we shop at, and other conspicuous consumption), and class boundaries that are concrete and visible (e.g., rich versus poor neighbourhoods, K-12 schools; Bourdieu, 1979; Kraus & Keltner, 2009). These observable class signals provide the stimuli that allow an individuals' social class rank to be rapidly and accurately perceived in everyday social interactions (Kraus, Tan, & Tannenbaum, 2013). As such, subjective social class rank is arguably a more salient aspect of our social class identity compared to the objective knowledge of our income bracket or educational attainment—which remain largely concealed due to social mores. With particular regard to SWB, social class rank derived from everyday status cues may be even more relevant to our judgments of life satisfaction and happiness.

In sum, while it is reasonable to hypothesize that objective and subjective social class would give rise to similar predictable differences in their associations with SWB, their predictive strength is likely to differ. Additionally, in view of the limitations of using the index of relative objective resources in most of the earlier literature examining the relativity hypothesis discussed earlier, I contend that the subjective social class index derived from perceptions of individuals' social class rank relative to others provides a broader and more valid assessment of one's social class standing. First, subjective social class is an assessment based on local social comparisons to specific targets or social groups, the comparison standard in this measure is clear. Second, as the

subjective social class assessment places individuals in an immediate comparison mindset, the experience and impact of relative economic advantage on SWB is more directly measured. In addition, recent research has found that the stronger influence of subjective social class than objective social class on health outcomes are distinct from effects of mood bias (Kraus, Adler, & Chen, 2013). Therefore, the association between subjective social class and SWB is more likely reflect the actual contribution of social class to individual's SWB.

Despite the increase in empirical work that assess both subjective social class and SWB, no efforts have yet been undertaken to meta-analyze this effect. Obtaining an overall estimate of this effect and comparing it to estimate of objective social class and SWB relation may provide a stronger and valid test and support for the relativity hypothesis that explain the link between social class and SWB. Furthermore, it also enables an overall test of the hypothesis that subjective social class yields stronger links with SWB than objective social class. Finally, it has been almost a decade since the last meta-analysis was conducted on the social class-SWB relation (Howell & Howell, 2008). Given rapid and significant changes in the world and individuals over time, as well as emerging new research on SWB over the years, the status of the objective social class-SWB is also worth revisiting. Together, these reasons call for a meta-analysis of studies that concurrently examines the objective social class-SWB and subjective social class-SWB relation.



## CHAPTER 4: MODERATORS OF THE OBJECTIVE AND SUBJECTIVE SOCIAL CLASS LINKS TO SWB

Although objective and subjective social class are presumably assessments of the same construct, their distinctive psychological process suggest that the way they relate to specific outcomes might differ. Indeed, more recent research in social class has begun paying attention to how the effects of objective and subjective social class might diverge on the same outcomes, in domains of health and political behavior. For instance, one study found that a given level of objective social class can yield a range of subjective social class perceptions that co-vary with health outcomes (Choi, Kim, & Park, 2015). Similarly, another research found that in the US, Americans' perceived social class identity are often incongruent with their objective social class, with the more educated individuals having more congruent perceptions of subjective and objective social class and the less educated more likely to inflate their subjective social class above their objective social class (Sosnaud, Brady, & Frenk, 2013). Therefore, identifying potential factors that may influence whether the effects of objective social class and subjective social class are congruent is especially important to fully understand the various psychological effects of social class.

With respect to SWB, although I predicted that the associations of both objective and subjective social class with SWB are expected to differ, such that subjective social class should yield a stronger link with SWB than objective social class, some existing theories and past empirical work also suggest that the direction of difference between both correlations may also depend on specific moderators. In the following, I outline the theoretical and empirical basis of four theoretical moderators examined meta-analysis, with my specific predictions described.

*Sample level income.* Need Theory posits that the association between absolute income and SWB depends on the extent to which individuals are past subsistence levels (Diener & Biswas-Diener, 2002; Diener & Lucas, 2002, Moller & Schlemmer, 1983; Veenhooven, 1991). Specifically, the absolute income and SWB link should be stronger for individuals from less economically developed countries because they are likely to be below subsistence levels. On the other hand, the same link should be weaker for individuals from more economically developed countries because they are past subsistence levels. Furthermore, based on the relativity hypothesis, being past subsistence levels also means that wealthier individuals are more concerned with how their wealth compares to others around them, the past, or their aspirations (Easterlin, 1974; 1995; 2001). This increased orientation toward comparisons for the wealthier people suggests that the subjective social class index may capture the pervasive psychological state of comparing one's wealth with others more accurately for individuals from more economically developed countries than those from less economically developed countries. Therefore, I hypothesize that the sample level income will moderate the subjective social class-SWB relation, such that the effect size is weaker for samples at a lower income level but stronger for samples at a higher income level. On the other hand, the objective social class-SWB relation should follow the prediction of need theory, such that the effect size will decrease with higher sample level income.

*Stage of economic development.* Conceptually, the stage of economic development is similar to the sample level income, in that both assess wealth but at different levels. Specifically, the stage of economic development assesses the wealth of the country whereas sample level income indicates the wealth at the level of the sample that was studied. To the extent that the study samples are representative of the country overall, the moderating effects of the stage of

economic development should be similar to the effect of sample level income. As such, I hypothesize that effect of the stage of economic development of the sample will follow the relativity hypothesis for subjective social class-SWB relation, such that the effect size is weaker for samples at a lower stage of economic development but stronger for samples at a higher stage of economic development. Conversely, the objective social class-SWB relation should follow the prediction of need theory, such that the effect size will decrease with higher stages of economic development.

*Income inequality.* Most research involving income inequality and SWB mostly examined their direct relationship (e.g., Chapple, Förster, & Martin, 2009; Oshio & Urakawa, 2014; Rözer & Kraaykamp, 2012), but to date, only one recent research has attempted to look at how income inequality may influence the relation between social class and SWB (Cheung & Lucas, 2015). In this research, the researchers argued that high income inequality is likely to make income discrepancies more salient than low income inequality. Therefore, as social comparisons often strengthen the income and SWB link (Layard, Mayraz, Nickell, 2010; Mayraz, Wagner, & Schupp, 2009), societies with high income inequality should lead to stronger social comparison tendencies in individuals, which strengthens the income and SWB link, compared to societies experiencing low income inequality. Indeed, their research supported this argument. Following the same reasoning, I hypothesize that the level of income inequality in the country of the sample will moderate only the subjective social class-SWB effect size, such that the effect size is stronger for samples from countries with higher income inequality than samples from countries with lower income inequality. In contrast, the objective social class-SWB effect size should be unaffected by the level of income inequality.

*Individualism.* In a recent work by Curhan et al. (2014), they provided the first investigation of cultural differences in how much SWB would be predicted by objective social status or subjective social status. Their findings revealed that in the independent culture, represented by an American sample, subjective social status predicted life satisfaction more strongly than in the interdependent culture, represented by a Japanese sample. On the other hand, objective social status predicted life satisfaction more strongly in the Japanese sample than the American sample. They argued that this effect is primarily driven by the cultural models of the self (Markus & Kitayama, 2003). Specifically, as the independent model of self is more internally focused, individuals from the independent culture tend to rely on their own subjective perceptions in guiding their thoughts and actions (Markus & Kitayama, 2010), which includes using subjective social status to judge their life satisfaction. Conversely, as the interdependent model of self is more socially-oriented, individuals from the interdependent culture tend to rely on objective standards that are presumably normative and thus, shared by others (Leung & Cohen, 2011; Wirtz & Scollon, 2012). As such, these individuals would consider objective social class as a normative standard of status, which shapes their judgments of life satisfaction more strongly.

Nonetheless, it has also been argued that as there is greater concern for social evaluation in less individualistic (or more collectivistic) cultures, this tends to promote greater social comparison processes in such cultures than in individualistic cultures (e.g., Sasaki, Ko, & Kim, 2014)—a position that has also been supported by a number of empirical studies. For instance, East Asians appear to be less affected by self-awareness primes, presumably because they are already more chronically self-aware and sensitive to public evaluations of themselves than European Americans (Heine, Takemoto, Moskaleiko, Lasaleta, & Henrich, 2008). In academic

domains, one study found that compared to Australian students, Asian students' academic motivations were more driven by social approval (Niles, 1995). White and Lehmen (2005) also found that after receiving failure feedback on a test, Asian Canadians were more likely to examine the test of someone who did better than them than European Canadians. If social comparison is indeed more salient in collectivistic cultures than individualistic cultures as these evidence suggest, judgments of social class may also more rooted in social comparisons for the collectivists. Therefore, it is also possible to conceive of the opposite pattern that individuals from less individualistic (or more collectivistic) cultures rely more on subjective social status in judging their life satisfaction than individuals from more individualistic cultures. Given that either direction of how the social class-SWB association might vary with culture are likely, testing the moderation effect of individualism in this meta-analysis would provide a reasonable test of both of these competing hypotheses.

*Power distance.* According to Hofstede's cultural dimensions across nations (Hofstede, 2001; Hofstede, Hofstede, & Minkov, 2010), power distance indicates the extent to which societies accept power hierarchies and inequalities in the distribution of power. Since power distance appears to be a similar construct to income inequality in that high power distance and high income inequality exacerbates the sense of relative disadvantage, their effects on the objective and subjective social class-SWB relation should be similar. Therefore, I hypothesized that the extent of power distance in a country will moderate the subjective social class-SWB effect size, such that the effect size will be greater for samples from countries with higher power distance than samples from countries with a less power distance. On the other hand, the objective social class-SWB effect size should be unaffected by the extent of power distance in the country.

*Masculinity.* Another of Hofstede's national cultural dimension is masculinity, which characterizes the extent to which the society is competitive or cooperative (Hofstede, 2001; Hofstede, Hofstede, & Minkov, 2010). A country that is high in masculinity is one that values competition rather than cooperation. Based on the social comparison model of competition (Garcia, Tor, & Schiff, 2013), factors that drive competition will likely drive comparison concerns, and vice versa. This implies that social comparisons should be more salient and therefore, meaningful in competitive societies. Therefore, I hypothesized that the extent of masculinity in a country will moderate only the subjective social class-SWB effect size the effect size will be greater for samples from countries characterized as high masculinity than low masculinity. Conversely, objective social class-SWB effect size should be unaffected by masculinity.

*Demographic moderators.* Besides the theoretical moderators, demographic variables and variables related to sample characteristics may also influence the objective social class-SWB and subjective social class-SWB relations. In the current analysis, demographic variables of age and female proportion, as well as sample characteristics of cohort year of the sample will also be examined as exploratory moderators. Past theorizing and studies have found gender differences in the social class-SWB relation, such that the association is stronger for males than for females, presumably because income is a more central and important source of well-being for men than for women (Adelmann, 1987; Mahmuda, 2003). Therefore, with regard to the objective social class-SWB relation, I predict that this pattern will be replicated. Conversely, given past findings that females have a more interdependent self-construal than men (Clancy & Dollinger, 1993) and are more attentive to social and emotional cues than men (Ambady, Hallahan, & Rosenthal, 1995; Bernieri, Zuckerman, Koestner, & Rosenthal, 1994), it is possible to argue that social

comparison processes will be more salient and meaningful to females than to males, including social comparisons of income. Therefore, for the subjective social class-SWB relation, I predict that the association will be stronger for females than for males.

For the other demographic variables, I had no a priori expectations on their moderating effects on the social class-SWB links and would consider their analyses as exploratory.

## CHAPTER 5: OVERVIEW

To provide a more valid test of the relativity hypothesis in explaining the association between social class and SWB, I conducted a meta-analytic review of past work that has examined this relation, using either or both of the objective and subjective indices of social class. This meta-analysis will focus on studies that examine life satisfaction and happiness—the global cognitive component of SWB. This choice is guided by the following reasons. First, past research that has argued that evaluation of life satisfaction often elicits a focus on the quality of one’s material circumstances (Howell & Howell, 2008; Kahneman, Krueger, Schkade, Schwarz, & Stone, 2004), and that income is more consistently associated with life satisfaction in general (Diener et al., 2013). As well, it has been argued that as a cognitive evaluation, life satisfaction involves judgment of more cognitive experiences, such as one’s material circumstances, while the affective aspect relates more to transient emotions (Lee, Kim, & Shin, 1982). Taken together, these suggest that in relation to social class, life satisfaction is a more relevant aspect of SWB to examine compared to the affective aspect.

This proposed meta-analysis had three goals: First, I sought to estimate the overall  $r$  effect size for the association between objective social class and subjective well-being, as well as the association between subjective social class and subjective well-being. Second, I compared the effect size of both relations to test my main hypothesis that the subjective index of social class relates to subjective well-being more strongly than the objective index of social class. Finally, I examined several theoretical and demographic moderators that might elucidate boundary conditions in which both the objective and subjective social class indices might differ in their relation to subjective well-being.



## CHAPTER 6: METHODS

### 6.1 Review and Inclusion Criteria

I conducted a search on *PsychInfo*, *Google Scholar* and *Dissertation Abstracts International* using the following keywords: (social class OR socioeconomic status OR social status OR social rank OR social class rank or rank OR income OR education) AND (subjective wellbeing OR life satisfaction OR happiness OR positive affect OR negative affect) for all reports available by January 2016. Additionally, I conducted manual searches from *Social Indicators Research*, *Journal of Happiness Studies* and the *MacArthur Research Network on SES & Health*. I also supplemented these searches by examining the reference sections of past meta-analyses and review papers on the topic of subjective well-being. Finally, I also sent requests for unpublished, dissertation, under-review and in press data to the e-mail list of the Society for Personality and Social Psychology and contacted individual researchers to request unpublished data. My search yielded 933 potentially eligible articles. These articles were then screened for inclusion in the current meta-analysis based on the following inclusion criteria:

1. Studies involving objective social class were included as long as they reported using any standard objective social class measures, i.e., income, education and occupation. Studies were also included if they stated that demographic information was collected, without any specific reference to the type of social class measure available.
2. Studies involving subjective social class were included if they assessed subjective social class using the MacArthur Subjective Social Status Scale, self-reports of one's own perceived social class as lower-, middle-, or upper-class, or comparisons of one's material resources relative to any comparison target (e.g., local community, co-workers, friends).

3. Studies were included if SWB was assessed as life satisfaction (single- and multiple-item), happiness (single- and multiple-item), positive affect and negative affect (from PANAS and Affect Balance Scale).
4. Studies were included if they reported zero-order bivariate associations between social class and life satisfaction directly, or if the associations can be computed from summary tables or descriptive statistics.
5. If a study was eligible but did not report the appropriate statistics, original authors of the study were contacted directly to obtain usable data. Out of the 154 authors I contacted, 55 of them provided the data I requested, 14 responded and indicated that they were unable to provide the data, mainly due to expired access to databases and datasets lost over the years. The remaining authors did not respond to my requests.

Based on a further examination of the potentially eligible reports, 443 reports met inclusion criteria 1 to 3. Of these articles, 144 articles (4% unpublished) met all inclusion criteria and were used in this meta-analysis, which provided 334 independent samples. These samples included a total  $N$  of 3,249,838 ( $Mdn = 1103$ ,  $M = 9730$ ,  $SD = 76223$ ). The age range of the samples was 12-108 years ( $M = 45.66$ ,  $SD = 9.58$ ). For samples that reported gender proportions, they were on average 55.6% female ( $SD = 10.2\%$ ). For samples that reported education levels, an average of 47.8% ( $SD = 12.5\%$ ) had less than high school education, 35.9% ( $SD = 15.6$ ) completed high school, and 27% ( $SD = 21.1\%$ ) had college degrees and above.

## 6.2 Coding for General Study Characteristics

The following general study characteristics were coded: (a) sample cohort year, (b) publication source (journal article, unpublished data, dissertation, conference paper), (c) country where the study was conducted, (d) sampling technique (nationally representative, convenient

sample, stratified random sampling), (e) type of objective social class assessment (income, education, occupation), (f) type of subjective social class assessment (MacArthur Scale of Subjective Status, perceived social class, social comparisons of material resources), (g) type of SWB assessment (single item, multiple item).

For the income assessment, the median, mean, standard deviation and range of absolute income were recorded whenever available. The same descriptives were recorded for studies that assessed income using specific income categories instead of absolute income. For the education assessment, the composition of educational attainment (less than high school, completed high school, college and above) by percentage, as well as the mean and standard deviation of the number of years of education were recorded if reported in the study. Available demographic information such as mean age, gender composition by percentage, and ethnicity by percentage were also coded. All this information was obtained directly from the Method section of the studies, table of descriptives provided in the articles, or authors who responded to my e-mail requests.

### 6.3 Coding for Moderators

The following theoretical moderators that I planned to test in the meta-analysis were coded: (a) stage of economic development of the country at the time of sampling, (b) level of income inequality of the country at the time of sampling, (c) individualism, (d) power distance, and (e) masculinity.

The criteria I used to code for each moderator were as follows. I recorded the sample's stage of economic development by recording the sampled country's gross national income (GNI) per capita at the time of sampling, using the World Bank classification. For the level of income inequality of the sampled country, I recorded the GINI index provided by the World Bank

estimate, which assessed income distribution on a score of 0 to 100, with 0 being perfect equality and 100 being perfect inequality. For some countries, the GINI index for a particular year was unavailable in the World Bank estimate. In these cases, I obtained the missing GINI index from the OECD Income Distribution Database or published papers that reported the GINI index for the same country in the same year. To code for individualism, power distance and masculinity, I used Hofstede's National Culture measure (Hofstede, 2001; Hofstede, Hofstede, & Minkov, 2010). This measure scores and classifies countries on six cultural dimensions (Hofstede, 1980), with the individualism, power distance and masculinity as part of the classification. In general, countries are scored in each of these dimensions on a scale of 100, with higher scores indicating that the country is high on that dimension. In the case of individualism, lower scores also indicated that the country is high in collectivism. All of these moderators were coded as continuous variables, instead of dichotomized variables, in order to preserve the range of information provided by all the samples.

Demographic moderators of potential relevance and interest were also recorded, namely the sample mean age, proportion of females in sample, cohort year of the sample and the percentile income level of the sample. All of these were obtained from the coding of study characteristics as described previously. To address potential problems with range restriction in the mean income levels of different samples, I normalized these measures across samples by computing the difference between the mean and lower range of the measure divided by the difference between the upper and the lower range of the measure. This creates an income percentile and education percentile value for each sample, where their mean levels are normalized on a zero to one scale. Once again, these demographic moderators were kept as continuous variables instead of being dichotomized.

All study characteristics and moderators were coded independently by me and two other trained research assistants. The agreement for all the variables was generally good. For the categorical variables, we obtained an average of  $\kappa = .90$  ( $\kappa_{\text{range}} = .88$  to  $.92$ ). For the continuous variables, we obtained an average of  $r = .94$  ( $\kappa_{\text{range}} = .92$  to  $.95$ ). In cases of discrepancies in coding, the discrepancies were resolved by further examination of the studies and coming to an agreement about the coding.

#### 6.4 Effect Size Calculation

After coding for all study characteristics and moderators, I calculated the effect sizes for the social class and SWB relation for each sample. The effect size used in this meta-analysis is the  $r$  effect size, which was computed from the retrieved zero-order bivariate correlations using the Fisher's  $z$  transformation (e.g., Hedges & Olkin, 1985). In general, positive effect sizes indicate the expected direction of the social class and SWB relation, such that higher social class is associated with greater SWB, when SWB was assessed as life satisfaction, happiness and positive affect. In cases where SWB was assessed as negative affect, negative effect sizes would be expected. Table 1 shows all the effect size estimates, sample characteristics and moderators that were coded.

#### 6.5 Unit of Analysis

The primary unit of analysis for the overall effect size estimation is the independent sample. For samples that reported social class and SWB correlations for multiple social class and SWB constructs (e.g., income-life satisfaction correlation, education-life satisfaction correlation and income-happiness correlations reported in the same sample), I manually computed an aggregated effect size within that sample. Therefore, for the overall effect size estimates and tests

of homogeneity, each independent sample had only one effect size, and univariate tests were applied in these cases ( $k = 334$ ).

Nonetheless, a majority of the cases assessed and reported both objective social class and SWB correlations and subjective social class and SWB correlations within the same sample ( $k = 208$ ). For these samples, effect sizes were separately aggregated for each type of social class index. For instance, if a study assessed income, education, social class ladder rank and life satisfaction, the effect sizes of income-life satisfaction and education-life satisfaction were aggregated, while the effect size for ladder rank-life satisfaction was recorded as a separate effect size. In other words, each of these samples had two effect sizes, one indicating the objective social class-SWB relation and the other indicating the subjective social class-SWB relation. As a result, these effect sizes are considered dependent. For these cases, overall effect size estimates and tests of homogeneity were also conducted, but using the multivariate tests instead.

In testing for moderating effects, analyses were conducted only on the multivariate samples, where both objective social class and subjective social class were assessed within the same sample. This decision was made based on three reasons. First, the moderator hypotheses made specific predictions about how the objective social class-SWB effect size and subjective social class-SWB effect size changes differently in the presence of moderators. The rationale underlying these hypotheses is that for the same individual, the assessment of objective social class and subjective social class would have unique and distinguishable influences on their well-being. As such, the unique influence is best captured from a multivariate perspective, where their common influences are controlled for. Second, while it is possible to test for moderators in only the univariate samples (i.e., samples that assess only objective social class or subjective social class), there are only 10 cases where only subjective social class was assessed, whereas there are

114 cases where only objective social class was assessed. The disproportionate ratio of univariate cases of objective social class to subjective social class makes the pattern of moderating effects for each social class index obtained, particularly the small number of cases for subjective social class, potentially unstable and unreliable. Third, even with sufficient cases for subjective social class, the effect size estimates in the univariate analysis do not clearly indicate whether the moderated influence of each social class index on well-being is unique or common.

## CHAPTER 7: RESULTS

### 7.1 Data Analysis

I conducted the overall effect size estimates and homogeneity tests of effect sizes for all samples using SPSS macros provided by Lipsey & Wilson (2010). For the multivariate effect size estimates, homogeneity tests and moderator tests, I used the meta-analytic software package metaSEM (Cheung, 2015) in R. Tests of publication bias were also conducted in R using the meta-analytic software metaphor, version 1.9-8 (Viechtbauer, 2015). All analyses were conducted using the random-effects analysis for two reasons. First, the studies included in this meta-analysis are obtained from a range of cross-cultural and international samples with varying study characteristics. As such, study population parameters are likely to be variable across these studies. Second and relatedly, fixed-effects analyses are more susceptible to Type-I error than random-effects analyses when population parameters are not constant (Borenstein, Hedges, Higgins, & Rothstein, 2009; Cheung, 2015; Hunter & Schmidt, 2000), which is likely the case for my samples. These suggest that the random-effects analyses are more appropriate for the types of studies included in this meta-analysis.

### 7.2 Overall Social Class-SWB Effect Sizes

*Univariate analyses.* The overall mean weighted social class-SWB  $r$  effect size across all independent samples ( $k = 334$ ) was .135, with 95% CI [.126, .144]. This effect size was significantly different from zero,  $Z = 30.45$ ,  $p < .001$ . Separate effect sizes were also estimated for objective social class-SWB and subjective social class-SWB. In these analyses, objective and subjective social class were treated as univariate measures in each sample. The mean weighted objective social class-SWB  $r$  effect size ( $k = 322$ ) was .114, with 95% CI [.106, .123], and was significantly different from zero,  $z = 25.65$ ,  $p < .001$ . For the subjective social class-SWB



relation, the mean weighted  $r$  effect size ( $k = 218$ ) was .205, with 95% CI [.188, .223], and was also significantly different from zero,  $z = 23.01$ ,  $p < .001$ . Importantly, the effect size for the subjective social class-SWB relation was almost twice of that for the objective social class-SWB relation. Univariate test of differences between both effect sizes also revealed that the subjective social class-SWB relation was significantly larger than the objective social class-SWB relation,  $Q(df = 1) = 5.938$ ,  $p = .015$ . Given a number of studies that assessed the social class-SWB association longitudinally, overall effect sizes for each social class index were also estimated for this subset of studies. For these studies, the objective social class-SWB effect size ( $k = 27$ ) was .112, with 95% CI [.072, .153],  $z = 5.45$ ,  $p < .001$ , whereas the subjective social class-SWB effect size ( $k = 5$ ) was .235, with 95% CI [.133, .334],  $z = 4.50$ ,  $p < .001$ . Once again, the subjective social class-SWB effect size for these studies are about double that of the objective social class-SWB effect size. Overall, these results support the first hypothesis that subjective social class relates to subjective well-being more strongly than the objective social class.

Among samples that assessed objective social class, separate effect sizes were also estimated for the income measure and education measure of social class. Specifically, the mean weighted income-SWB  $r$  effect size was .144, with 95% CI [.127, .162], and was significantly different from zero,  $z = 15.96$ ,  $p < .001$ . The mean weighted education-SWB  $r$  effect size was .081, with 95% CI [.073, .088], and was also significantly different from zero,  $z = 20.22$ ,  $p < .001$ . A univariate test of differences between the income-SWB effect size and the education-SWB effect size revealed that the income measure yielded a significantly stronger relation with SWB than education,  $Q(df = 1) = 30.42$ ,  $p < .001$ .

As the most common assessments of subjective social class were using the MacArthur ladder ranking and perceived social class, the effect sizes for with these measures were also

estimated separately and compared. The mean weighted ladder-SWB  $r$  effect size was .224, with 95% CI [.204, .243], and was significantly different from zero,  $z = 22.45, p < .001$ . The mean weighted perceived social class-SWB  $r$  effect size was .118, with 95% CI [.094, .143], and was also significantly different from zero,  $z = 9.452, p < .001$ . A univariate test of differences between the effect sizes for both measures revealed that the ladder ranking measure yielded a significantly stronger relation with SWB than the perceived social class measure,  $Q(df = 1) = 43.25, p < .001$ .

*Multivariate analyses.* As objective and subjective social class are different measures of the same construct, both measures are likely to be dependent. Therefore, a more precise way of estimating and comparing their effect sizes is to account for their dependence using a multivariate meta-analysis. The correlation between objective and subjective social class were obtainable for most of these samples, with some exceptions ( $k = 10$ ). For these cases, their correlations were estimated from a large scale study that examined this association (Kraus et al., 2009). With these correlations, I conducted a multivariate random-effects analysis on the samples where both objective and subjective social class associations with SWB were obtained ( $k = 208$ ).

First, the test of homogeneity of effect sizes was significant,  $Q(df = 410) = 3804.13, p < .001$ . Additionally, the  $I^2$  for objective social class-SWB and subjective social class-SWB are .830 and .947. Taken together, these suggest that there is significant heterogeneity among the effect sizes, and the random effects model is indeed more appropriate for analyzing these samples. Importantly, the analysis revealed the objective social class-SWB effect size to be .117, with 95% CI [.107, .128], and the subjective social class-SWB effect size to be .200, with 95% CI [.182, .217]. As objective and subjective social class are dependent, I tested the significance

of both effect sizes simultaneously by comparing their effect size model to a random-effects model where both effect sizes are fixed at zero. This model comparison yielded a significant likelihood-ratio statistic,  $\Delta\chi^2(df = 2) = 275.85, p < .001$ , indicating that both effect sizes are significantly different from zero. Similar to the univariate analyses, the subjective social class-SWB effect size is almost twice the size of objective social class-SWB effect size in this analysis, which is also in line with the first hypothesis.

### 7.3 Tests of Inclusion Bias

I conducted several tests of inclusion bias to ascertain any potential threats to the validity of the overall meta-analytic effect sizes. First, I analyzed the distribution of effect sizes in the samples to determine potential biases in study inclusion using the funnel plot. The goal of the funnel plot is to demonstrate whether the overall effect size estimate in the meta-analysis is potentially inflated due to the lack of inclusion of studies where the null hypothesis was not rejected. To create the funnel plot, I plotted the standard errors in descending order against the obtained  $r$  effect sizes. A symmetric distribution of effect sizes in the funnel plot will suggest that the effect size estimate is likely to be unbiased. I created all total of four funnel plots, with two of them representing the distribution of all effect sizes with objective social class (Figure 1) and the distribution of all effect sizes with subjective social class (Figure 2). The other two funnel plots represent the distribution of effect sizes with objective social class only in the multivariate samples (Figure 3) and the distribution of effect sizes with subjective social class only in the multivariate samples (Figure 4). Overall, the distributions of effect sizes appear relatively symmetric across all samples. In particular, as most of the samples included are relatively large, most effect sizes are distributed around the upper regions of the funnel plots.

To formally test the funnel plot asymmetry, I conducted two additional tests. The first test is the Begg and Mazumdar's (1994) rank correlation test, or Kendall's tau b, which computes a non-parametric correlation of effect sizes and their standard errors. A significant correlation produced from this test would suggest the likelihood of inclusion bias in our samples. For all the effect sizes with objective social class (corresponding to Figure 1), the rank correlation was  $r = .044$ ,  $p = .13$ . For all the effect sizes with subjective social class (corresponding to Figure 2), the rank correlation was  $r = -.025$ ,  $p = .59$ . With regard to the distribution for the multivariate samples only, the rank correlation for objective social class (corresponding to Figure 3) was  $r = .048$ ,  $p = .29$ , whereas the rank correlation for subjective social class was  $r = -.038$ ,  $p = .41$ . Since none of these tests yielded a significant correlation, they suggest little evidence for inclusion bias.

To supplement this inference with other formal tests, I also conducted the trim-and-fill analysis and the sensitivity analysis. The trim-and-fill analysis identifies and removes studies causing the funnel plot asymmetry, and then replaces the removed studies with effect sizes around the "true centre" of the trimmed funnel plot. This analysis also estimates the missing number of studies that would correct for bias in the sample. Based on this analysis, 35 missing studies were estimated for the effect sizes with objective social class, while 31 missing studies were estimated for the effect sizes with subjective social class. Furthermore, when these studies were added, the new overall effect size estimate for objective social class-SWB was .136, with 95% CI [.125, .146],  $z = 25.34$ ,  $p < .001$ , while the new overall effect size estimate for subjective social class-SWB was .246, with 95% CI [.227, .264],  $z = 25.86$ ,  $p < .001$ . Although this analysis suggests that there are missing studies that could account for bias, it may be worth noting that the newly estimated effect sizes for both objective social class-SWB and subjective social class-

SWB after accounting for these missing studies are larger and remain significantly different from zero. In other words, even though our current samples may have excluded certain studies, the overall effect is still present, with or without these studies.

The sensitivity analysis examines the potential impact of moderate and severe levels of bias on effect size estimates (Copas, 1999; Vevea & Woods, 2005). Specifically, it provides the adjusted estimates of effect size given the presence of a moderate one-tailed bias, severe one-tailed bias, moderate two-tailed bias, and severe two-tailed bias. If these effect size estimates are relatively unaffected by the presence of different levels of bias, it suggests that the effect size obtained from the samples is robust to bias. Based on this analysis, the unadjusted parameter estimate of objective social class-SWB was .112. The adjusted parameter estimates given potential levels of biases were as follows: .108 for moderate one-tailed selection bias, .103 for severe one-tailed selection bias, .110 for moderate two-tailed selection bias, and .109 for severe two-tailed selection bias. For each of these adjusted parameter estimates, I computed a percentage deviation score from the unadjusted parameter estimates to index the robustness of the objective social class-SWB effect size. The percentage deviation scores as follows: 3.7% for moderate one-tailed selection bias, 8.7% for severe one-tailed selection bias, 1.8% for moderate two-tailed selection bias, and 2.8% for severe two-tailed selection bias. As the percentage deviation across these levels of bias are mostly less than 5%, with the exception of when there is severe one-tailed selection bias, the objective social class-SWB effect size appears to be relatively robust to bias.

For subjective social class-SWB, the unadjusted parameter estimate was .201. The adjusted parameter estimates given potential levels of biases were as follows: .186 for moderate one-tailed selection bias, .179 for severe one-tailed selection bias, .196 for moderate two-tailed

selection bias, and .190 for severe two-tailed selection bias. The percentage deviation scores for each level of bias were as follows: 8.1% for moderate one-tailed selection bias, 12.2% for severe one-tailed selection bias, 2.6% for moderate two-tailed selection bias, and 5.7% for severe two-tailed selection bias. Although the percentage deviation across these levels of bias are higher than in the case of objective social class-SWB, the range is mostly within 10% deviation, which suggests some degree of robustness to bias for the subjective social class-SWB effect size.

#### 7.4 Moderators of the Social Class-SWB Effect Sizes

To test for moderators of the social class-SWB effect sizes, I conducted a mixed-effects analysis on the samples that had both objective social class-SWB and subjective social class-SWB effect sizes from within the same sample. One potential problem of meta-analyzing a subset of studies from the total studies is that there may be systematic differences between the subset versus non-subset of studies. In the present case, there may be systematic differences between studies that assessed only one type of social class-SWB relation and studies that assessed both objective social class- and subjective social class-SWB relations. If differences are present, the subset of studies may not be from the same population and the moderator findings obtained from the subset may not generalize to the broader population of studies. To examine whether studies that assessed both social class-SWB relations are different from those that assessed only one type of relation, I conducted a statistical test of effect size differences between the subset of studies and the non-subset of studies. For the objective social class-SWB relation, there was no significant difference between effect sizes obtained from the subset and the non-subset of studies,  $Q(df=1) = .041, p = .84$ . The result was the same for the case of subjective social class-SWB relation,  $Q(df=1) = .053, p = .82$ . These provide some confidence that results from the moderation tests should be generalizable to the broader set of studies.

For all of these tests, the moderators were kept as continuous variables to preserve the range of information available, as well as to control for Type-I error rates. In general, the mixed-effects analysis tests for the significance of the slope of the moderator in uniquely predicting each objective social class-SWB and subjective social class-SWB effect size. If the slope of the moderator is significant for a particular effect size, then the effect size indeed varies with levels of the moderator. All moderators were mean-centered in the analyses.

### 7.5 Exploratory Tests of Demographic Moderators

*Age.* The multivariate mixed-effects analysis yielded an objective social class-SWB effect size of .119, with 95% CI [.109, .130], and a subjective social class-SWB effect size of .198, with 95% CI [.180, .215]. However, age did not significantly moderate the objective social class-SWB effect size,  $b = .001$ , 95% CI [-.001, .003],  $R^2 = .007$ , *ns*, or the subjective social class-SWB effect,  $b = .001$ , 95% CI [-.001, .005],  $R^2 = .002$ , *ns*.

*Female proportion.* The multivariate mixed-effects analysis yielded an objective social class-SWB effect size of .120, with 95% CI [.110, .130], and a subjective social class-SWB effect size of .198, with 95% CI [.180, .216]. However, contrary to prediction, the proportion of females in the sample did not significantly moderate the objective social class-SWB effect size,  $b = .12$ , 95% CI [-.008, .321],  $R^2 = .029$ , *ns*, or the subjective social class-SWB effect,  $b = -.120$ , 95% CI [-.438, .198],  $R^2 = .002$ , *ns*.

*Cohort year.* The analysis estimated an objective social class-SWB effect size of .119, with 95% CI [.109, .130], and a subjective social class-SWB effect size of .200, with 95% CI [.185, .215]. While the cohort year of the samples did not significantly moderate the objective social class-SWB effect size,  $b = .001$ , 95% CI [-.0002, .002],  $R^2 = .037$ , *ns*, it did significantly moderate the subjective social class-SWB effect size,  $b = .005$ , 95% CI [.003, .006],  $R^2 = .305$ , *p*

< .001. Specifically, the subjective social class-SWB effect size in the more recent years were significantly greater than in the earlier years.

*Sample income level.* The presence of the moderating effect of sample income level potentially provides support for the curvilinear prediction of need theory. Specifically, samples at lower income levels should yield larger effect sizes for both objective and subjective social class associations with SWB, whereas samples at higher income levels should yield smaller effect sizes for both objective and subjective social class associations with SWB. The mixed-effects analysis did not conform to this prediction. In fact, sample income level did not significantly moderate the objective social class-SWB effect size,  $b = .01$ , 95% CI [-.032, .052],  $R^2 = .000$ , *ns*, as well as the subjective social class-SWB effect size,  $b = -.05$ , 95% CI [-.117, .017],  $R^2 = .095$ , *ns*. As such, need theory was not supported by these samples.

#### 7.6 Test of Theoretical Moderators

*Stage of economic development.* Following the prediction of Need Theory (Diener & Biswas-Diener, 2002; Diener & Lucas, 2002, Moller & Schlemmer, 1983; Veenhooven, 1991), I hypothesized that the stage of economic development of the sample will moderate the subjective social class-SWB effect size, such that the effect size is weaker for samples at a lower stage of economic development but stronger for samples at a higher stage of economic development. Conversely, the moderation effect on the objective social class-SWB effect size by the stage of economic development will be the opposite. The analysis revealed the following results: Subjective social class-SWB effect size was unaffected by the stage of economic development,  $b = .007$ , 95% CI [-.009, .023],  $R^2 = .000$ , *ns*, whereas the objective social class-SWB effect size varied significantly with the stage of economic development, such that the effect size was stronger for samples at a lower stage of economic development than samples at a higher stage of



economic development,  $b = -.01$ , 95% CI  $[-.02, -.001]$ ,  $R^2 = .26$ ,  $p = .032$ . As such, the hypothesis for objective social class-SWB was supported, but not for the subjective social class-SWB.

*Level of income inequality.* Based on findings by Cheung & Lucas (2015), I predicted that the level of income inequality in the country of the sample will moderate only the subjective social class-SWB effect size, such that the effect size is stronger for samples from countries with higher income inequality than samples from countries with lower income inequality, whereas the objective social class-SWB effect size will be unaffected by the level of income inequality. Indeed, the analysis revealed that the level of income inequality did not moderate the objective social class-SWB effect size,  $b = .001$ , 95% CI  $[-.001, .002]$ ,  $R^2 = .000$ , *ns*. However, contrary to the prediction, subjective social class-SWB effect size was also unaffected by the level of income inequality,  $b = .0002$ , 95% CI  $[-.003, .003]$ ,  $R^2 = .000$ , *ns*. Therefore, although the result for the objective social class-SWB effect size was consistent with the prediction, the prediction for the subjective social class-SWB effect size was not supported.

*Individualism.* This analysis tested the competing hypotheses that individualism will moderate both effect sizes, such that the objective social class-SWB effect size will be stronger for samples from less individualistic (more collectivistic) cultures, whereas the objective social class-SWB effect size will be stronger for samples from more individualistic (less collectivistic) cultures, versus the opposite pattern for both indices. The pattern of result for the objective social class-SWB effect size was consistent with the former hypothesis,  $b = -.07$ , 95% CI  $[-.11, -.03]$ ,  $R^2 = .46$ ,  $p = .002$ . However, the subjective social class-SWB effect size was not moderated by individualism,  $b = .05$ , 95% CI  $[-.12, .02]$ ,  $R^2 = .000$ , *ns*, which did not support either of the competing hypotheses.

*Power distance.* I hypothesized that the extent of power distance in a country will moderate the subjective social class-SWB effect size, such that the effect size will be greater for samples from countries with higher power distance than samples from countries with a less power distance. On the other hand, the objective social class-SWB effect size should be unaffected by the extent of power distance in the country. Interestingly, the results were opposite to the hypothesis. Unexpectedly, objective social class-SWB effect size was larger for samples from countries with higher power distance than less power distance,  $b = .08$ , 95% CI [.035, .13],  $R^2 = .51$ ,  $p < .001$ . However, subjective social class-SWB effect size did not vary with the extent of power distance in the country of the samples,  $b = .02$ , 95% CI [-.067, .013],  $R^2 = .07$ , *ns*.

*Masculinity.* I hypothesized that the extent of masculinity in a country will moderate only the subjective social class-SWB effect size, such that the effect size will be greater for samples from countries characterized as high masculinity than low masculinity. Objective social class-SWB should be unaffected by masculinity. Results from the moderator supported the hypothesis for objective social class-SWB. Indeed, masculinity did not affect the objective social class-SWB effect size,  $b = .00007$ , 95% CI [-.00004, .00005],  $R^2 = .000$ , *ns*. However, contrary to prediction, masculinity did not moderate the subjective social class-SWB effect size as well,  $b = -.00005$ , 95% CI [-.00007, .00006],  $R^2 = .0001$ , *ns*.

### 7.7. Univariate Meta-Regression Including All Moderators

Since a number of the proposed moderators are correlated with each other, I conducted a meta-regression analysis by regressing the social class and SWB relations on all of the moderators to examine the unique effect of each moderator. This was a univariate analysis, meaning that samples included had assessed either one or both of the objective social class and subjective social class indices. For the objective social class-SWB relation ( $k = 138$ ), sample

income level, stage of economic development, gender and cohort year emerged as significant moderators of the relation. Specifically, the objective social class-SWB association increased with higher sample income level,  $b = .10$ , 95% CI [.034, .17],  $p = .004$ , decreased with higher stage of economic development,  $b = -.027$ , 95% CI [-.045, -.008],  $p = .005$ , increased with higher proportion of females in the sample,  $b = .31$ , 95% CI [.024, .60],  $p = .034$ , and increased with more recent cohorts,  $b = .005$ , 95% CI [.002, .009],  $p = .003$ . For the subjective social class-SWB relation ( $k = 119$ ), power distance, stage of economic development and cohort year significantly moderated the relation. Specifically, the association decreased with greater power distance,  $b = -.002$ , 95% CI [-.003, -.0001],  $p = .04$ , decreased with higher stage of economic development,  $b = -.042$ , 95% CI [-.081, -.003],  $p = .03$ , and increased with more recent cohorts,  $b = .014$ , 95% CI [.007, .021],  $p < .001$ .

## CHAPTER 8: GENERAL DISCUSSION

Does money buy you more happiness, or does specifically having more money *than others* matter more for your happiness? The central goal of this meta-analysis was to investigate the veracity of the relativity hypothesis, which proposed that perceiving social class status by comparing one's resources to others is more consequential on their overall happiness than considering one's absolute income or education level. Although past empirical tests of this hypothesis are aplenty, most of these studies have limited their assessment of relative social class to applying specific computations to objective social class indices, such as taking the logarithm of one's income, or calculations of relative deprivation using individual and mean level incomes. While informative, I have argued that such operationalizations only capture objective comparisons and do not directly assess the actual psychological experience of engaging in social comparisons. Furthermore, I proposed that a more direct assessment of social class based on comparisons is to measure one's social class rank, by which individuals are directly made to assess their self-identified social class or where they stand on the social class ladder relative to specific others, such as the within their social groups, local community, country, etc. Examining how these more direct measures of relative social class standing relate to SWB is arguably more a more conceptually valid test of the relativity hypothesis.

Besides testing the relativity hypothesis of SWB from a unique perspective, the current meta-analysis is also the first to provide an overall estimate of the subjective social class-SWB relation. Despite the emerging perspective of social class that suggests that subjective social class can have unique influences on important psychological processes and life outcomes (Adler et al., 2000; Singh et al., 1994; Kraus et al., 2012, Kraus et al., 2013), most of the past meta-analyses of the social class-SWB relation have relied exclusively on assessments of objective social class

(e.g., Howell & Howell, 2008; Lyubomirsky, King, & Diener, 2005; Pinquart & Sörensen, 2000). By meta-analyzing the subjective social class-SWB relation and examining potential moderators that might influence this relation, the current meta-analysis fills this gap in the literature and provides a more complete understanding of the social class-SWB relation. Importantly, a major part of this meta-analysis also uses a multivariate approach which enables the test of the unique and relative influences of objective and subjective social class on SWB. The findings on the moderator analyses also suggest, more broadly, conditions in which a convergence or divergence between the influences of objective social class and subjective social class might be expected. Finally, this meta-analysis presents the latest cumulating evidence for the social class-SWB association since the last examination conducted almost a decade ago. In addition, compared to the past meta-analyses, the current meta-analyses included a more recent and also a significantly larger number of samples.

### 8.1 Summary of Results

Overall, the objective social class-SWB effect size estimate obtained in this meta-analysis was  $r = .114$  based on the univariate test, and  $r = .117$  based on the multivariate test. These effect sizes corroborate with past research that has obtained mostly weak income-SWB relations, particularly for wealthier nations (Ahuvia & Friedman, 1998; Diener & Oishi, 2000; Diener et al., 1993; Howell & Howell, 2008; Rojas, 2004). For the subjective social class-SWB effect size estimates, they were almost twice as large as the objective social class-SWB relation, with  $r = .205$  based on the univariate test, and  $r = .200$  based on the multivariate test. Importantly, the effect size estimates for each social class index were similar regardless of whether the dependence or non-dependence between both indices were assumed.

The size of the objective social class-SWB relation and subjective social class-SWB relation were also compared, and results showed that the subjective social class-SWB relation was significantly larger than the objective social class-SWB relation, across both univariate and multivariate analyses. These findings provide evidence for the relativity hypothesis, which also supports my first prediction. Specifically, when social class status was derived from perceptions of standing relative to others, this perception of social class was more consequential on individuals' well-being. In other words, money and resources can make you significantly happier if you perceive that you have more resources than others than simply knowing that you have a certain amount of resources.

Given significant heterogeneity in the studies of this meta-analysis, I also tested for several potential demographic and theoretical moderators of each of the objective social class-SWB relation and the subjective social class-SWB relation. Importantly, these tests were done using the multivariate mixed-effects model approach, which tests for moderating effects while accounting for common effects due to dependency between the objective and subjective social class indices. For the demographic moderators, results showed that the objective social class-SWB relation was unaffected by across these moderators, namely age, proportion of females in the sample, cohort year of the sample and sample level income. Interestingly, gender proportion did not moderate the objective social class-SWB, which did not align with past meta-analyses that found a gender effects, such that samples with a higher proportion of male yielded stronger objective social class-SWB relations (Howell & Howell, 2008; Piquart & Sörensen, 2000). One potential reason for why this gender difference was not obtained in this meta-analysis relates to changes in gender roles over time. In the past, the stronger social class-SWB associations obtained for predominantly male samples were explained by assumptions of traditional gender

roles that men derive satisfaction from work while women derive satisfaction from relationships (Adelmann, 1978; Mahmuda; 2003). Although this theory might hold in the past due, it may no longer be the case in recent years, particularly for societies where women are as educated and career-driven as men. As an indirectly evidence for this likelihood, a recent large scale study found that the evolutionary theory that women look out for status while men look out for physical attractiveness in potential mates did not hold up for countries with low gender gap (Zentner & Mitura, 2012). Therefore, it is possible that as the current meta-analysis includes a broader range of samples and include more recent studies, the gender gap is less prominent and gender differences in the social class-SWB is no longer observed. Gender proportion also did not seem to moderate the subjective social class-SWB association, although across the range of gender proportions, the subjective social class-SWB relation was consistently stronger than the objective social class-SWB relation. This suggests that for both genders, subjective comparisons of income are equally strong and psychologically meaningful for their wellbeing.

The subjective social class-SWB relation was also unaffected by these moderators, except the sample cohort year. Specifically, across the time period of 1998 to 2015, the subjective social class-SWB relation was significantly stronger over recent years than the earlier years. Although there was no a priori hypothesis for why this relation should increase in recent years, it is interesting to speculate why this cohort effect is observed with the subjective social class-SWB relation but not with the objective social class-SWB relation. One possibility is that modernization over time has resulted in increased competition within societies over the years, making social comparisons far more salient today than in the past. In other words, following the social comparison model of competition (Garcia, Tor, & Schiff, 2013) outlined in my prediction

for masculinity as a potential theoretical moderator, it is possible that this cohort effect is driven by increase in masculinity of societies over time.

The moderator hypotheses for the objective social class-SWB relation was supported for stage of economic development, income inequality, individualism and masculinity, but an unexpected pattern emerged for power distance. Although sample-level income and the stage of economic development both presumably test the need theory prediction and should yield similar effects, results showed that sample level income did not moderate the objective social class-SWB relation, whereas the stage of economic development of the sampled country did follow the need theory prediction. One reason for the discrepancy between these findings may be that the sample-level income was not always representative of the country-level income. In fact, examination of the frequency distribution of normalized sample-level income shows a positive skew, such that more samples are at the lower than higher end of the scale. On the other hand, the economic development level of the are more normally distributed. Therefore, a reasonable conclusion to make at this point is that need theory may explain differences in objective social class on SWB at the country-level, such that wealthier countries do not rely as much on objective resources for greater happiness. However, the result is less conclusive given a greater percentage of low relative income samples present.

The finding that individualism moderated the objective social class-SWB relation, such that lower individualism (or greater collectivism) produced stronger relations than higher individualism, corroborates with findings by Curhan et al. (2014), but is not consistent with the theory and findings that collectivists are more driven by social comparisons than individualists. It is worth noting that in Curhan et al.'s (2014) analysis, the cultural comparison examined was only between USA and Japan, whereas the current meta-analysis examined a broader range of



countries characterized as primarily individualist or collectivist based on Hofstede's cultural dimension score. Therefore, the result from the current analysis provides a stronger evidence for the theory that judgments of objective status and hierarchies are more meaningful for collectivists than individualists, which have a subsequent stronger impact on the well-being of the collectivists. Although this finding failed to support the alternative theory that social comparisons are more salient and meaningful for collectivists, this does not necessary mean that the theory is untrue. One possible explanation is that collectivists care more about upward social comparisons than downward social comparisons (Chung & Mallery, 1999; White & Lehman, 2005), and most studies and this current analysis does not distinguish between the type of social comparison that individuals actually engage in. In future studies and analyses, this distinction would be important and worthwhile to examine so as to provide a more precise test of the alternative theory.

One unexpected finding that emerged was that the objective social class-SWB relation was significantly moderated by power distance, such that the relation was stronger for samples with greater power distance than less power distance, while subjective social class-SWB was unaffected by power distance. Although the original reasoning was that power distance in a society should reflect a sense of inequality in society, akin to income inequality, both dimensions are slightly nuanced. Specifically, Hofstede's conceptualization of power distance states that even though cultures can have unequal distribution of power, this inequality is assumed to be normative and accepted in cultures of higher power distance. On the other hand, income inequality is not necessarily a cultural phenomenon where it may be normative and accepted. Based on this, it is reasonable that relative standing has little consequence on SWB in societies with high power distance, because the inequality is not necessarily viewed as a relative

disadvantage. Conversely, objective social class may matter in such societies because having greater absolute resources is a proxy to having higher power.

The subjective social class-SWB relation was surprisingly robust across all the theoretical moderators, namely sample level income, stage of economic development, level of income inequality, individualism, power distance and masculinity, which was counter to hypotheses. The lack of evidence for the subjective social class-SWB hypotheses may be due to the following reasons. First, the moderators that were assessed for these studies, particularly for sample-level income, income inequality and power distance, had a skewed distribution of scores, which could have limited the ability to detect some of these moderator effects. Second, although the current analyses did not replicate Curhan et al.'s (2014) finding that subjective social class predicted individualists' SWB more strongly than collectivists' SWB, it is possible that the effect in that study was confounded by the higher level of income inequality in the US than Japan, such that subjective social status was more salient in the US compared to in Japan. In our current meta-analysis, the individualist and collectivist samples included countries with a range of income inequality levels, so our findings are less likely to be confounded. Therefore, it may simply be the case that individualism is not a consequential moderator of the subjective social class-SWB relation.

Third, it may simply be the case that the perception of social class derived from social comparison is generally the most psychologically relevant judgment for the experience of social class and that this experience meaningfully drives how happy or satisfied individuals are with their lives. In other words, the robustness of the subjective social class-SWB relation is essentially support for the relativity hypothesis, regardless of sample characteristics or circumstances. As theorized earlier, information about social class in the form of class symbols is

more pervasive and easily accessible, which conveniently drives social comparison when thinking about one's own social class standing. The judgment of one's subjective social class directly engages this social comparative process and is therefore, an inherently more reliable way of characterizing one's actual psychological experience of social class compared to objective information about a person's income level or educational attainment. With this arguably more reliable measure of the social class experience, the stronger association obtained with SWB than with the objective social class index supports the idea that the subjective perception of one's level of material resources does buy people greater happiness.

## 8.2 Other Plausible Explanations

*Common Method Bias.* Although the findings from the current meta-analysis align with prediction of the relativity hypothesis, there may be other plausible explanations for why the observed subjective social class-SWB relation is stronger than the objective social class-SWB relation. One obvious alternative would be that the stronger subjective social class-SWB relation may simply be a cognitive artifact driven by the subjectivity of both subjective social class and SWB assessments or positive mood bias. In other words, it may be common method variance due to construct similarity that has artificially inflated the subjective social class-SWB relation instead of an actual stronger psychological influence due to greater validity of social class rank. As a potential address to this alternative, recent research has found that the effect of subjective social class on self-rated health persisted even after accounting for mood bias (Kraus, Adler, & Chen, 2013). This provides some support for the argument that the stronger subjective social class-SWB relation obtained in the current meta-analysis reflects the relativity hypothesis and not measurement bias. Nonetheless, a more convincing way to rule out this alternative in this meta-analysis is to include the assessment of another construct that is common to both subjective

social class and SWB and partial out its effect to see if the subjective social class-SWB relation remains strong (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). To do this, for cases in which the subjective social class-SWB, positive affect-SWB and subjective social class-positive affect relations were available ( $k = 5$ ), I conducted a meta-regression of the subjective social class-SWB effect sizes on the positive affect-SWB and subjective social class-positive affect associations to examine if the subjective social class-SWB effect size still holds, controlling for the common effect of positive affect. The analysis revealed that the subjective social class-SWB effect was still significant above and beyond the influence of positive affect,  $b = .21$ , 95% CI [.055, -.367],  $p = .008$ . Although this result potentially rules out common method variance, it should be interpreted with caution given that the number of cases included in this analysis is small and that there may be other constructs which subjective social class and SWB are strongly associated with but not assessed in these studies (Podsakoff et al., 2003). Nonetheless, pending the additional response of other authors that have been contacted for missing data, more cases may be available for this analysis, which will help to rule out common method bias more definitively.

*Range Restriction of Samples.* Another possible alternative is that the difference in objective and subjective social class-SWB associations is driven by the range restriction of the samples. This may be likely since the distribution of sample-level income is positively skewed such that the samples examined are primarily at the lower end of the normalized income scale. This could mean that the larger subjective social class-SWB effect is driven by a greater overestimation of economic disadvantage in these samples, rather than the actual overall psychological differences in the experience of objective and subjective social class. Nonetheless, if the effect is indeed driven by low income samples, need theory would predict that the

objective social class-SWB relation should be relatively strong as well and perhaps, indistinguishable from the subjective social class-SWB relation. Based on the results, the fact that for samples at the lower end of the normalized income scale, the difference between the objective and subjective social class-SWB relation still held up suggests that the effect is likely driven by actual psychological differences in both social class indices rather than simply due to range restriction. It would be important, though, in future to obtain more samples and have a more normal distribution of sample level income, so as to directly rule out this problem of range restriction.

*Interpreting the social class-SWB correlation.* Although there are significant differences in how strongly objective and subjective social class relate to SWB, these effects are still correlational, and do not necessarily suggest a stronger causal effect of subjective social class than objective social class on SWB. It is also plausible that people who are happier and more satisfied with life in general are more likely to overestimate their subjective social class rather than their reports of objective social class, which is presumably factual and less susceptible to biases. Since this alternative cannot be completely ruled out in this meta-analysis, future experimental work or meta-analyses of existing experimental work manipulating subjective social class would be needed to ascertain the causal direction between the social class and SWB variables.

### 8.3 Implications and Future Directions

There are several implications based on the current finding that subjective social class relates to SWB more strongly than objective social class. First, the current finding illustrates that the social class-SWB relation may not be as weak as previously thought, when people perceive their social class as relative to where they stand to others. This suggests that the perception of

relative status is a valid cue for judging social class that has substantial influence on SWB. In addition, the findings also indicated factors that moderated the objective and subjective social class-SWB relations, namely the sample cohort year, country's stage of economic development, individualism and power distance. In other words, these are factors that could be considered if any research finds that the influence of objective and subjective social class on SWB and incongruent or diverge in their patterns.

Perceived subjective social class appears to relate to SWB consistently, as shown by its insensitivity to moderators that were examined in this meta-analysis, with the exception of the sample cohort year. On the other hand, the objective social class-SWB relation does vary with some of the moderators tested. One possible implication of this is that subjective social class may be a universal indicator of social class that can be used to assess the social class relation to SWB across heterogeneous samples. In other words, the subjective social class functions as a standardized index that controls for any differences due to culture, wealth, income distribution or any other country characteristics or individual differences. If subjective social class is indeed a more standardized index, researchers may do well by simply using subjective measures of social class in well-being research for heterogeneous samples, without the objective measures.

In my overall theorizing, I argued that one reason why subjective social class is more psychologically relevant and meaningful than objective social class is because of the ubiquitous presence of social class symbols in everyday social encounters and interaction. However, this may only be true for objectively middle-class individuals whose social class status are more ambiguous and likely to vary depending on comparison targets. Some theorists have also argued that some individuals may experience *status inconsistency* or *class ambivalence* (Hodge & Treiman, 1968; Hout, 2008), whom we may expect to observe divergence in how much objective

and subjective social class would influence their well-being. For individuals who are objectively extremely wealthy and individuals in poverty, their objective social class is clear and their subjective social class is likely to align with it, regardless of comparison targets. In the latter case, we might expect that their objective social class-SWB and subjective social class-SWB relation would converge. Thus, another interesting future direction may be to examine factors, besides being middle class, that could determine whether a person's objective and subjective social class are likely to align or be discrepant from each other. For instance, environmental variability and economic instability due to fluctuations in the economy or migration may result in uncertainties about one's social status, which leads to greater reliance on subjective social status than objective social status in judgments of one's social class. Besides these situational factors, individual differences such as political orientation, social dominance orientation and beliefs about social mobility, which taps onto uncertainty and perceptions of social hierarchy may also moderate the objective and subjective social class differences.

#### 8.4 Limitations

Finally, the current meta-analysis is not without limitations. Despite efforts to be as inclusive in my search for articles to be screened and included in this meta-analysis, the tests of publication bias suggest that there may be some selection bias present in the samples that I tested. One possible reason is the lack of unpublished data in the current samples, so a good number of studies may have been unintentionally omitted from my samples. Although efforts have been made to reach out to researchers through various medium for unpublished data, the goal of including such data is limited by the low response rates. Another reason is that a large number of articles that qualified for inclusion did not report raw correlations for the social class-SWB relation. As with the responses to requests for unpublished data, responses to requests for

missing correlations were also low, which prevented many relevant studies from being included. A second limitation is the apparent non-normal distribution of the levels of the moderators, particularly for sample-level income, income inequality and power distance. Again, this may be related to the possible selection bias. Part of the problem is with missing demographic information in many of the studies. Without some of these information, the study cannot be coded for certain moderators and are thus excluded in the analyses. Finally, although the present meta-analysis found the subjective social class-SWB relation to be unaffected by moderators, it does not necessarily mean that this relation is completely robust. It is possible that moderators that matter were unidentified and not examined in this analysis. Therefore, the findings and conclusions of this meta-analysis needs to be considered in the light of these limitations present.

### 8.5 Conclusion

While the good life can be pursued in many different ways, money and resources continue to be prioritized as an important and highly desired means to happiness across many modern societies. Overall, results from the current meta-analysis based on a large sample of studies reaffirms the notion that money and resources can influence well-being, particularly when they are perceived to be substantial relative to others. Furthermore, this research suggests that the subjective experience of social class is psychologically meaningful and consequential for individuals' happiness. Importantly, how subjective social class relates to SWB is also distinguishable from how objective social class relates to SWB, depending on moderators. In sum, I hope that future work in the SWB domain will pay a greater attention to examining this aspect of social class in generating novel insights on the psychological determinants and processes that underlie the successful pursuit of the good life.



## CHAPTER 9: TABLES AND FIGURES

Table 1. Effect sizes, sample sizes and moderator codes for each sample in the meta-analysis

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individualism	Masculinity	Economic development	Income Inequality	SES-SWB <sub>r</sub>	Objective SES-SWB <sub>r</sub>	Subjective SES-SWB <sub>r</sub>
ISSP (2007)	1332	43.42	Argentina	0.57	0.05	Household income & education composite	Ladder ranking	49	46	56	-	47.4	0.092	0.074	0.129
Boyce et al. (2012)	17250	46.51	Australia	0.54	-	Household income & education composite	-	36	90	61	34910	35.6	0.030	0.030	-
Correa-Velez et al. (2010)	89	15.10	Australia	0.49	-	-	Ladder ranking	36	90	61	32980	35.6	0.116	-	0.116
ISSP (1991)	1452	48.70	Australia	0.47	0.08	Household income & education composite	Ladder ranking	36	90	61	16670	33.7	0.028	-0.015	0.112
ISSP (1998)	1075	53.37	Australia	0.51	0.17	Household income & education composite	Self-identified social class	36	90	61	25570	33.7	-0.003	-0.026	0.042
ISSP (2002)	1216	48.38	Australia	0.53	0.11	Household income & education composite	Ladder ranking	36	90	61	25570	34.0	0.069	-0.015	0.236
ISSP (2007)	2342	50.41	Australia	0.55	0.58	Household income & education composite	Ladder ranking	36	90	61	34910	35.6	0.051	0.020	0.113
ISSP (2008)	1450	51.26	Australia	0.54	0.61	Household income & education composite	Ladder ranking	36	90	61	35950	35.6	0.143	0.093	0.243
ISSP (2011)	1329	55.06	Australia	0.52	0.01	Household income & education composite	Ladder ranking	36	90	61	40090	34.9	0.091	0.021	0.231
Marks & Fleming (1999)	1322	-	Australia	-	-	Personal income	-	36	90	61	16670	33.5	0.030	0.030	-
Rubin & Kelley (2015)	389	21.94	Australia	0.81	-	Parents' education attainment	-	36	90	61	42760	34.9	0.108	0.054	0.217
ISSP (1991)	862	47.07	Austria	0.56	0.49	Household income & education composite	Ladder ranking	11	55	79	19580	29.9	0.105	0.106	0.103

Table 1. (cont.)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individualism	Masculinity	Economic development	Income Inequality	SES-SWB	Objective SES-SWB	Subjective SES-SWB
ISSP (1998)	688	49.20	Austria	0.58	0.41	Household income & education composite	Self-identified social class	11	55	79	29270	29.9	0.094	0.096	0.090
ISSP (2002)	1355	45.91	Austria	0.62	0.35	Household income & education composite	Ladder ranking	11	55	79	29270	29.9	0.240	0.195	0.331
ISSP (2007)	741	44.25	Austria	0.56	0.43	Household income & education composite	Ladder ranking	11	55	79	39160	30.6	0.170	0.050	0.412
ISSP (2008)	729	44.25	Austria	0.56	0.43	Household income & education composite	Ladder ranking	11	55	79	41450	30.5	0.181	0.112	0.319
Camfield et al. (2009)	275	33.39	Bangladesh	0.48		Education attainment		80	20	55	1980	32.7	0.071	0.071	-
ISSP (2002)	1117	48.31	Belgium	0.52	0.05	Household income & education composite	Ladder ranking	65	75	54	29000	30.6	0.082	0.056	0.134
ISSP (2007)	1088	48.56	Belgium	0.50	0.23	Household income & education composite	Ladder ranking	65	75	54	37060	29.6	0.004	-0.010	0.031
ISSP (2008)	1103	49.37	Belgium	0.52	0.24	Household income & education composite	Ladder ranking	65	75	54	38730	29.0	0.154	0.136	0.189
ISSP (2011)	2235	49.66	Belgium	0.53	0.26	Household income & education composite	Ladder ranking	65	75	54	41210	28.4	0.217	0.156	0.339
Bedin & Sarriera (2015)	487	14.13	Brazil	0.68	-	-	Self-identified social class	69	38	49	15590	52.9	0.240	-	0.240
ISSP (2002)	1756	39.22	Brazil	0.51	0.01	Household income & education composite	Ladder ranking	69	38	49	8600	55.9	0.041	0.041	-

Table 1. (cont.)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individuals in	Masculinity	Economic development	Income inequality	SES-SWB	Objective SES-SWB	Subjective SES-SWB
ISSP (1998)	1023	48.21	Bulgaria	0.52	0.06	Household income & education composite	Self-identified social class	70	30	40	6190	-	0.154	0.133	0.198
ISSP (2002)	923	49.58	Bulgaria	0.57	0.12	Household income & education composite	Ladder ranking	70	30	40	6190	-	0.234	0.234	-
ISSP (2007)	644	49.13	Bulgaria	0.58	0.10	Household income & education composite	Ladder ranking	70	30	40	12360	28.1	0.102	0.098	0.110
ISSP (2011)	708	51.93	Bulgaria	0.58	0.14	Household income & education composite	Ladder ranking	70	30	40	15020	34.3	0.345	0.289	0.456
ISSP (1998)	900	40.26	Canada	0.36	0.52	Household income & education composite	Self-identified social class	39	80	52	28310	33.7	0.136	0.100	0.208
O'Connor & Vallbrand (1998)	109	80.50	Canada	0.86	-	Personal income & education composite	-	39	80	52	28310	33.7	-0.001	-0.001	-
ISSP (1998)	1327	42.15	Chile	0.58	0.21	Household income & education composite	Self-identified social class	63	23	28	9490	55.3	0.205	0.195	0.224
ISSP (2002)	1293	43.71	Chile	0.56	0.36	Household income & education composite	Ladder ranking	63	23	28	9490	55.3	0.173	0.165	0.189
ISSP (2007)	1172	45.49	Chile	0.60	0.10	Household income & education composite	Ladder ranking	63	23	28	15030	51.8	0.166	0.137	0.224
ISSP (2008)	1063	46.34	Chile	0.60	0.12	Household income & education composite	Ladder ranking	63	23	28	15260	52.0	0.230	0.188	0.314
ISSP (2011)	1103	46.54	Chile	0.61	0.13	Household income & education composite	Ladder ranking	63	23	28	19140	50.8	0.225	0.201	0.273

Table 1. (cont.)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individualism	Masculinity	Economic development	Income Inequality	SES-SWB <sub>r</sub>	Objective SES-SWB <sub>r</sub>	Subjective SES-SWB <sub>r</sub>
Vera-Villarrodal (2012)	520	21.26	Chile	-	-	Household income & education composite	-	63	23	28	19140	50.8	0.034	0.034	-
Guo (2014)	1203	72.00	China	0.50	-	Household income & education composite	-	80	20	66	8280	42.6	0.175	0.175	-
ISSP (2011)	4971	47.78	China	0.54	-	Household income & education composite	Ladder ranking	80	20	66	10180	42.1	0.156	0.053	0.362
Wang & Xie (2015)	5915	37.24	China	0.43	-	Household income	-	80	20	66	5830	42.6	0.117	0.117	-
Zhao (2012)	3431	40.10	China	0.47	-	Personal income	-	80	20	66	2880	42.6	0.236	0.151	0.321
Zhou & Zhang (2007)	1308	38.00	China	0.37	0.55	Household income & education composite	-	80	20	66	5830	42.6	0.085	0.085	-
Mishra et al. (2012)	730	33.09	China	0.55	-	Household income & education composite	-	80	20	66	-	42.1	0.047	0.047	-
ISSP (2007)	795	46.47	Croatia	0.54	0.08	Household income & education composite	Ladder ranking	73	33	40	18540	33.7	0.145	0.140	0.155
ISSP (2008)	776	45.71	Croatia	0.57	0.14	Household income & education composite	Ladder ranking	73	33	40	19900	33.7	0.226	0.189	0.300
ISSP (2011)	663	45.60	Croatia	0.53	0.14	Household income & education composite	Ladder ranking	73	33	40	20010	32.0	0.228	0.162	0.361
Dienert et al. (2010)	93012	-	Cross-national	-	-	Household income & education composite	-	-	-	-	-	-	0.326	0.326	-
Ng & Dienert (2014)	838151	-	Cross-national	-	-	Household income	-	-	-	-	-	-	0.169	0.169	-

Table 1. (cont.)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individualism	Masculinity	Economic development	Income inequality	SES-SWBr	Objective SES-SWBr	Subjective SES-SWBr
Haller & Hadler (2006)	46339	-	Cross-national	-	-	Household income & education composite	-	-	-	-	-	-	0.086	0.035	0.187
ISSP (1998)	857	41.97	Cyprus	0.51	0.45	Household income & education composite	Self-identified social class	73	33	40	18940	-	0.066	0.087	0.026
ISSP (2002)	864	41.15	Cyprus	0.50	0.55	Household income & education composite	Ladder ranking	73	33	40	18940	31.1	0.156	0.141	0.185
ISSP (2007)	871	41.26	Cyprus	0.50	0.43	Household income & education composite	Ladder ranking	73	33	40	29710	31.1	0.161	0.170	0.144
ISSP (2008)	848	41.61	Cyprus	0.50	0.41	Household income & education composite	Ladder ranking	73	33	40	34100	31.7	0.105	0.102	0.111
ISSP (1998)	745	45.98	Czech Republic	0.61	0.19	Household income & education composite	Self-identified social class	57	58	57	15990	-	0.072	0.091	0.033
ISSP (2002)	907	42.92	Czech Republic	0.64	0.41	Household income & education composite	Ladder ranking	57	58	57	15990	-	0.182	0.147	0.250
ISSP (2007)	701	49.04	Czech Republic	0.55	0.21	Household income & education composite	Ladder ranking	57	58	57	24980	26.0	0.023	0.023	-
ISSP (2008)	1083	50.52	Czech Republic	0.54	0.19	Household income & education composite	Ladder ranking	57	58	57	25350	26.3	0.260	0.206	0.368
ISSP (2011)	1230	47.42	Czech Republic	0.55	0.31	Household income & education composite	Ladder ranking	57	58	57	26440	26.4	0.199	0.148	0.301
ISSP (1998)	946	48.46	Denmark	0.54	0.47	Household income & education composite	Self-identified social class	18	74	16	28960	-	0.059	0.041	0.094

Table 1. (cont)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individualism	Masculinity	Economic development	Income Inequality	SES-SWB	Objective SES-SWB	Subjective SES-SWB
ISSP (2002)	1282	46.51	Denmark	0.55	0.42	Household income & education composite	Ladder ranking	18	74	16	28960	0.052	0.012	0.133	
ISSP (2008)	1810	49.11	Denmark	0.52	0.44	Household income & education composite	Ladder ranking	18	74	16	41290	28.9	0.085	0.068	0.119
ISSP (2011)	1357	46.28	Denmark	0.50	0.47	Household income & education composite	Ladder ranking	18	74	16	44230	29.5	0.151	0.094	0.266
ISSP (2007)	2003	37.40	Dominican Republic	0.52	0.11	Household income & education composite	Ladder ranking	65	30	65	9270	48.7	0.069	0.042	0.124
ISSP (2008)	1902	37.86	Dominican Republic	0.52	0.13	Household income & education composite	Ladder ranking	65	30	65	9750	49.0	0.142	0.147	0.133
Bellani & D'Ambrosio (2011)	49273	48.41	Eastern Europe countries	0.53	-	Household income	-	-	-	-	-	-	0.190	0.190	-
Hayo & Seifert (2003)	5831	44.99	Eastern Europe countries	0.54	-	Household income & education composite	-	-	-	-	-	-	0.104	0.104	-
Elgar et al. (2015)	1371	13.10	European countries	0.51	-	-	Ladder ranking	-	-	-	-	-	0.297	0.137	0.4-57
ISSP (2002)	1015	44.20	Finland	0.55	0.02	Household income & education composite	Ladder ranking	33	63	26	26310	-	0.086	0.086	-
ISSP (2007)	1095	46.12	Finland	0.56	0.05	Household income & education composite	Ladder ranking	33	63	26	37630	28.3	-0.012	-0.013	-0.010
ISSP (2008)	918	46.94	Finland	0.56	0.04	Household income & education composite	Ladder ranking	33	63	26	39800	27.9	0.094	0.047	0.187

Table 1. (cont.)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individualism	Masculinity	Economic development	Income Inequality	SES-SWB	Objective SES-SWB	Subjective SES-SWB
ISSP (2011)	838	46.15	Finland	0.55	0.05	Household income & education composite	Ladder ranking	33	63	26	40430	27.7	0.108	0.042	0.239
Sandman et al. (2015)	13314	50.92	Finland	0.47	-	Household income & education composite	-	33	63	26	38030	28.3	0.163	0.163	-
ISSP (1998)	937	44.34	France	0.51	0.27	Household income & education composite	Self-identified social class	68	71	43	26470	-	0.042	0.020	0.088
ISSP (2002)	1544	44.77	France	0.66	0.28	Household income & education composite	Ladder ranking	68	71	43	26470	-	0.162	0.162	-
ISSP (2007)	1856	50.83	France	0.54	0.29	Household income & education composite	Ladder ranking	68	71	43	34750	32.6	0.000	-0.035	0.069
ISSP (2008)	2080	53.62	France	0.54	0.36	Household income & education composite	Ladder ranking	68	71	43	35890	33.1	0.208	0.209	0.207
ISSP (2011)	2325	52.09	France	0.58	0.02	Household income & education composite	Ladder ranking	68	71	43	38180	33.4	0.204	0.155	0.302
D'Ambrosio & Frick (2004)	29800	44.95	Germany	0.52	-	Household income & education composite	-	35	67	66	-	32.0	0.091	0.091	-
Haase et al. (2008)	397	27.31	Germany	0.52	-	Parent's education attainment	-	35	67	66	-	32.0	0.064	0.064	-
Headley et al. (2014)	454548		Germany	-	-	Education attainment	-	35	67	66	-	32.0	0.095	0.095	-
ISSP (1991)	698	44.43	Germany	0.51	0.21	Household income & education composite	Ladder ranking	35	67	66	19370	32.0	0.130	0.136	0.119

Table 1. (cont.)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individualism	Masculinity	Economic development	Income inequality	SES-SWB <sub>r</sub>	Objective SES-SWB <sub>r</sub>	Subjective SES-SWB <sub>r</sub>
ISSP (1991)	980	45.34	Germany	0.53	0.16	Household income & education composite	Ladder ranking	35	67	66	19370	32.0	0.080	0.092	0.055
ISSP (1998)	745	47.89	Germany	0.55	0.27	Household income & education composite	Self-identified social class	35	67	66	26460	32.0	0.026	0.017	0.046
ISSP (1998)	801	49.28	Germany	0.54	0.20	Household income & education composite	Self-identified social class	35	67	66	26460	32.0	0.082	0.058	0.130
ISSP (2002)	733	46.42	Germany	0.52	0.13	Household income & education composite	Ladder ranking	35	67	66	26460	32.0	0.156	0.082	0.303
ISSP (2002)	357	48.33	Germany	0.49	0.02	Household income & education composite	Ladder ranking	35	67	66	26460	32.0	0.171	0.124	0.264
ISSP (2007)	1210	50.04	Germany	0.52	0.02	Household income & education composite	Ladder ranking	35	67	66	37320	32.4	0.096	0.082	0.126
ISSP (2008)	1349	50.34	Germany	0.50	0.09	Household income & education composite	Ladder ranking	35	67	66	38810	31.3	0.195	0.158	0.269
ISSP (2011)	1425	49.50	Germany	0.49	0.09	Household income & education composite	Ladder ranking	35	67	66	43210	30.1	0.191	0.145	0.282
Korner et al. (2012)	488	34.60	Germany	0.62	-	Education attainment	-	35	67	66	37320	31.3	0.168	0.168	-
Lang & Heckhausen (2001)	480	-	Germany	0.50	-	Household income & education composite	-	35	67	66	26460	32.0	0.101	0.101	-
Lucas et al. (2004)	24000	-	Germany	-	-	Household income	-	35	67	66	-	32.0	0.203	0.203	-
Luhmann et al. (2011)	43565	33.70	Germany	0.51	-	Household income	-	35	67	66	-	31.3	0.243	0.243	-



Table 1. (cont.)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individualism	Masculinity	Economic development	Income inequality	SES-SWB <sub>r</sub>	Objective SES-SWB <sub>r</sub>	Subjective SES-SWB <sub>r</sub>
Pavlova & Silbereisen (2012)	254	34.10	Germany	0.50	-	Household income & education composite	-	35	67	66	35310	32.8	-0.007	-0.007	-
Pavlova & Silbereisen (2012)	254	34.10	Germany	5.50	-	Household income & education composite	-	35	67	66	35310	32.8	0.026	0.026	-
Wolbring et al. (2001)	560	48.80	Germany	-	-	Household income	-	35	67	66	40390	31.1	0.085	0.085	-
Wolbring et al. (2001)	17633	50.12	Germany	-	-	Household income	-	35	67	66	-	32.0	0.086	0.086	-
Chan et al. (2003)	204		Hong Kong	0.41	-	Education attainment	-	68	25	57	27180	-	-0.255	-0.255	-
Lee (2009)	109	77.97	Hong Kong	0.75	-	Education attainment	-	68	25	57	27180	-	0.040	0.040	-
ISSP (1991)	928	46.47	Hungary	0.57	0.11	Household income & education composite	Ladder ranking	46	80	88	-	-	0.169	0.156	0.194
ISSP (1998)	848	51.63	Hungary	0.57	0.09	Household income & education composite	Self-identified social class	46	80	88	11510	-	0.206	0.217	0.182
ISSP (2002)	854	49.55	Hungary	0.59	0.14	Household income & education composite	Ladder ranking	46	80	88	11510	27.2	0.265	0.227	0.339
ISSP (2007)	860	45.96	Hungary	0.56	0.18	Household income & education composite	Ladder ranking	46	80	88	18060	31.2	0.229	0.229	-
ISSP (2008)	803	46.22	Hungary	0.54	0.23	Household income & education composite	Ladder ranking	46	80	88	19540	27.5	0.284	0.248	0.357
Martos & Kopp (2011)	4385	48.33	Hungary	0.59	-	Household income & education composite	-	46	80	88	17710	28.3	0.214	0.214	-
Biswas-Diener & Diener (2001)	83	35.40	India	0.65	0.49	Personal income	-	77	48	56	1980	33.9	0.485	0.485	-

Table 1. (cont.)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individualism	Masculinity	Economic development	Income Inequality	SES-SWB <sub>r</sub>	Objective SES-SWB <sub>r</sub>	Subjective SES-SWB <sub>r</sub>
ISSP (1991)	892	43.76	Ireland	0.50	0.58	Household income & education composite	Ladder ranking	28	70	68	12450	-	0.126	0.107	0.164
ISSP (1998)	819	47.98	Ireland	0.53	0.41	Household income & education composite	Self-identified social class	28	70	68	25820	-	0.086	0.084	0.091
ISSP (2002)	1203	44.62	Ireland	0.56	0.31	Household income & education composite	Ladder ranking	28	70	68	25820	-	0.096	0.096	-
ISSP (2007)	992	45.08	Ireland	0.55	0.22	Household income & education composite	Ladder ranking	28	70	68	40610	32.0	0.102	0.089	0.129
ISSP (2008)	986	45.08	Ireland	0.55	0.22	Household income & education composite	Ladder ranking	28	70	68	38220	30.9	0.112	0.094	0.148
Amit & Litwin (2010)	930	66.10	Israel	0.66	-	Household income & education composite	Ladder ranking	13	54	47	25260	41.2	0.156	0.156	-
ISSP (1991)	907	40.05	Israel	0.55	0.47	Household income & education composite	Ladder ranking	13	54	47	13120	-	0.135	0.135	-
ISSP (1998)	890	39.82	Israel	0.53	0.20	Household income & education composite	Self-identified social class	13	54	47	22660	-	0.203	0.143	0.322
ISSP (2002)	893	42.38	Israel	0.56	0.27	Household income & education composite	Ladder ranking	13	54	47	22660	-	0.205	0.168	0.279
ISSP (2007)	1005	44.60	Israel	0.48	0.29	Household income & education composite	Ladder ranking	13	54	47	27170	41.2	0.127	0.061	0.258
ISSP (2008)	889	43.45	Israel	0.53	0.38	Household income & education composite	Ladder ranking	13	54	47	26650	41.2	0.180	0.180	0.181

Table 1. (cont)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individualism	Masculinity	Economic development	Income inequality	SES-SWB <sub>r</sub>	Objective SES-SWB <sub>r</sub>	Subjective SES-SWB <sub>r</sub>
ISSP (2011)	810	45.82	Israel	0.56	0.30	Household income & education composite	Ladder ranking	13	54	47	29770	42.8	0.179	0.109	0.321
Levin (2013)	1849	47.01	Israel	0.57	-	Education attainment	-	13	54	47	28130	42.8	0.131	0.131	-
Suliman-Aidan & Rimmerman (2015)	70	38.10	Israel	1.00	-	Education attainment	-	13	54	47	32050	42.8	0.266	0.266	-
ISSP (1991)	861	46.62	Italy	0.52	0.45	Household income & education composite	Ladder ranking	50	76	70	18080	-	0.111	0.113	0.107
ISSP (1998)	640	45.28	Italy	0.52	0.03	Household income & education composite	Self-identified social class	50	76	70	26550	-	0.116	0.096	0.155
ISSP (2008)	487	53.23	Italy	0.49	0.07	Household income & education composite	Ladder ranking	50	76	70	34860	33.7	0.195	0.138	0.310
ISSP (2011)	1007	50.65	Italy	0.53	0.35	Household income & education composite	-	50	76	70	35780	34.5	0.153	0.153	-
Curhan et al. (2015)	1027	54.40	Japan	0.51	-	Education attainment	Ladder ranking	54	46	95	32740	32.1	0.185	0.092	0.277
ISSP (1998)	1245	47.10	Japan	0.50	0.33	Household income & education composite	Self-identified social class	54	46	95	26270	32.1	0.061	0.035	0.113
ISSP (2002)	713	48.83	Japan	0.53	0.30	Household income & education composite	Ladder ranking	54	46	95	26270	32.1	0.176	0.100	0.328
ISSP (2007)	1103	49.67	Japan	0.53	0.26	Household income & education composite	Ladder ranking	54	46	95	34440	32.1	0.010	-0.001	0.032
ISSP (2008)	1031	50.48	Japan	0.54	0.25	Household income & education composite	Ladder ranking	54	46	95	34620	32.1	0.172	0.133	0.249

Table 1. (cont.)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individualism	Masculinity	Economic development	Income inequality	SES-SWB <sub>r</sub>	Objective SES-SWB <sub>r</sub>	Subjective SES-SWB <sub>r</sub>
ISSP (2011)	1165	50.53	Japan	0.53	0.25	Household income & education composite	Ladder ranking	54	46	9.5	35380	32.1	0.211	0.133	0.367
Oishi et al. (2015)	1348	56.08	Japan	0.51	-	Household income	-	54	46	9.5	26270	32.1	0.210	-	-
Oishi et al. (2015)	1203	-	Japan	-	-	Household income	-	54	46	9.5	26270	32.1	0.157	0.157	-
Oshio & Urakawa (2014)	10189	44.98	Japan	0.57	0.70	Household income & education composite	-	54	46	9.5	37550	32.1	0.275	0.168	0.489
Oshio et al. (2012)	3292	3704.00	Japan	-	-	Household income & education composite	-	54	46	9.5	34650	32.1	0.075	0.075	-
Chindarkar (2014)	80271	39.31	Latin American countries	0.51	-	Education attainment	-	-	-	-	-	-	0.081	0.081	-
ISSP (1998)	1130	42.90	Latvia	0.58	0.15	Household income & education composite	Self-identified social class	44	70	9	8160	-	0.137	0.120	0.173
ISSP (2002)	714	42.68	Latvia	0.58	0.16	Household income & education composite	Ladder ranking	44	70	9	8160	-	0.243	0.186	0.357
ISSP (2007)	701	44.59	Latvia	0.59	0.02	Household income & education composite	Ladder ranking	44	70	9	18290	36.1	0.088	0.063	0.137
ISSP (2008)	731	44.36	Latvia	0.61	0.12	Household income & education composite	Ladder ranking	44	70	9	19410	35.8	0.315	0.223	0.497
ISSP (2011)	878	47.73	Lithuania	0.59	0.01	Household income & education composite	Ladder ranking	42	60	19	21390	32.6	0.379	0.317	0.504
Howell et al. (2006)	307	42.00	Malaysia	-	-	Household income & education composite	-	100	26	50	14620	46.0	0.107	0.107	-

Table 1. (cont.)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individualism	Masculinity	Economic development	Income inequality	SES-SWB <sub>r</sub>	Objective SES-SWB <sub>r</sub>	Subjective SES-SWB <sub>r</sub>
Estrada & Arciniega (2015)	168	30.00	Mexican Americans	-	0.47		Ladder ranking	40	91	62	-	-	0.224	-	0.224
ISSP (2002)	1241	41.23	Mexico	0.59	0.05	Household income & education composite	Ladder ranking	81	30	9	10170	51.7	0.108	0.117	0.090
ISSP (2007)	869	39.32	Mexico	0.55	0.06	Household income & education composite	Ladder ranking	81	30	9	13400	48.0	0.067	0.052	0.097
ISSP (2008)	534	38.92	Mexico	0.58	0.09	Household income & education composite	Ladder ranking	81	30	9	14020	48.2	0.152	0.127	0.202
Toon et al. (2015)	419	30.70	Norway	0.37	-	Education		40	91	62	-	-	0.171	0.107	0.235
ISSP (1991)	1133	42.83	Netherlands	0.56	0.64	Household income & education composite	Ladder ranking	38	80	14	-	-	0.041	0.028	0.067
ISSP (1998)	1573	44.51	Netherlands	0.55	0.48	Household income & education composite	Self-identified social class	38	80	14	32180	-	0.041	0.041	-
ISSP (2002)	1013	44.41	Netherlands	0.52	0.17	Household income & education composite	Ladder ranking	38	80	14	34010	-	0.073	0.073	-
ISSP (2008)	1808	51.46	Netherlands	0.53	0.25	Household income & education composite	Ladder ranking	38	80	14	45280	29.9	0.190	0.155	0.260
ISSP (2011)	1279	53.99	Netherlands	0.56	0.46	Household income & education composite	Ladder ranking	38	80	14	47240	28.2	0.238	0.204	0.306
Stevierink & Lindenberg (2006)	855	74.20	Netherlands	0.58	-	Education attainment	-	38	80	14	32770	-	0.044	0.044	-
Stevierink & Lindenberg (2006)	410	74.30	Netherlands	0.58	-	Education attainment	-	38	80	14	32770	-	0.143	0.143	-
ISSP (1991)	913	44.57	New Zealand	0.55	0.63	Household income & education composite	Ladder ranking	22	79	58	-	-	0.091	0.057	0.158

Table 1. (cont.)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individualism	Masculinity	Economic development	Income Inequality	SES-SWB	Objective SES-SWB	Subjective SES-SWB
ISSP (1998)	864	48.13	New Zealand	0.54	0.42	Household income & education composite	Self-identified social class	22	79	58	20340	-	0.049	0.035	0.077
ISSP (2002)	883	49.70	New Zealand	0.57	0.50	Household income & education composite	Ladder ranking	22	79	58	22160	-	0.098	0.069	0.154
ISSP (2007)	899	51.83	New Zealand	0.54	0.52	Household income & education composite	Ladder ranking	22	79	58	27100	-	0.012	-0.038	0.112
ISSP (2008)	912	50.07	New Zealand	0.56	0.56	Household income & education composite	Ladder ranking	22	79	58	27390	-	0.087	0.062	0.139
ISSP (1991)	745	46.01	Northern Ireland	0.58	0.33	Household income & education composite	Ladder ranking	-	-	-	-	-	0.121	0.121	-
ISSP (1998)	811	45.91	Northern Ireland	0.54	-	Education attainment	Self-identified social class	-	-	-	-	-	-0.020	-0.020	-
ISSP (2002)	571	49.34	Northern Ireland	0.60	0.44	Household income & education composite	Ladder ranking	-	-	-	-	-	0.121	0.121	-
ISSP (1991)	1282	41.92	Norway	0.50	0.56	Household income & education composite	Ladder ranking	31	69	8	-	-	0.046	0.049	0.040
ISSP (1998)	1344	43.12	Norway	0.54	0.45	Household income & education composite	Self-identified social class	31	69	8	36310	-	-0.012	-0.009	-0.017
ISSP (2002)	1303	45.39	Norway	0.53	0.46	Household income & education composite	Ladder ranking	31	69	8	37850	-	0.092	0.048	0.180
ISSP (2007)	1014	46.94	Norway	0.54	0.02	Household income & education composite	Ladder ranking	31	69	8	56690	28-1	0.044	0.036	0.061

Table 1. (cont.)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individualism	Masculinity	Economic development	Income Inequality	SES-SWB <sub>r</sub>	Objective SES-SWB <sub>r</sub>	Subjective SES-SWB <sub>r</sub>
ISSP (2008)	921	46.70	Norway	0.54	0.02	Household income & education composite	Ladder ranking	31	69	8	62150	27.1	0.105	0.047	0.221
ISSP (2011)	1564	48.28	Norway	0.53	0.08	Household income & education composite	Ladder ranking	31	69	8	63330	25.5	0.170	0.110	0.291
Suhail & Chaudhry (2004)	973		Pakistan	0.50	-	Household income		55	14	50	2920	31.4	0.239	0.239	
ISSP (1991)	1199	38.06	Philippines	0.50	-	Education attainment	Ladder ranking	94	32	64	-	-	0.108	0.113	0.103
ISSP (1998)	1117	39.01	Philippines	0.50	0.02	Household income & education composite	Self-identified social class	94	32	64	3930	-	0.110	0.108	0.113
ISSP (2002)	1051	39.06	Philippines	0.50	0.02	Household income & education composite	Ladder ranking	94	32	64	4220	-	0.095	0.055	0.175
ISSP (2007)	1116	39.90	Philippines	0.50	0.09	Household income & education composite	Ladder ranking	94	32	64	6140	44.2	0.070	0.071	0.067
ISSP (2008)	1139	41.65	Philippines	0.50	0.08	Household income & education composite	Ladder ranking	94	32	64	6490	42.9	0.077	0.068	0.094
ISSP (2011)	1189	42.90	Philippines	0.50	0.07	Household income & education composite	Ladder ranking	94	32	64	6890	43.0	0.043	0.054	0.021
ISSP (1991)	908	39.61	Poland	0.53	0.11	Household income & education composite	Ladder ranking	68	60	64	-	-	0.163	0.163	-
ISSP (1998)	1067	47.83	Poland	0.56	0.12	Household income & education composite	Self-identified social class	68	60	64	10700	-	0.030	0.024	0.041
ISSP (2002)	1128	47.84	Poland	0.58	0.09	Household income & education composite	Ladder ranking	68	60	64	11700	33.0	0.271	0.237	0.339

Table 1. (cont)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individualism	Masculinity	Economic development	Income inequality	SES-SWB <sub>r</sub>	Objective SES-SWB <sub>r</sub>	Subjective SES-SWB <sub>r</sub>
ISSP (2007)	1161	48.14	Poland	0.52	0.12	Household income & education composite	Ladder ranking	68	60	64	16420	33.5	0.118	0.099	0.154
ISSP (2008)	1108	45.95	Poland	0.54	0.03	Household income & education composite	Ladder ranking	68	60	64	17750	33.7	0.248	0.208	0.329
ISSP (2011)	613	47.80	Poland	0.54	0.02	Household income & education composite	Ladder ranking	68	60	64	21830	32.8	0.158	0.098	0.279
Fernandes et al. (2012)	1246		Portugal	0.53	0.58	Household income & education composite	-	63	27	31	26410	36.3	0.046	0.046	-
ISSP (1998)	1154	46.30	Portugal	0.57	0.36	Household income & education composite	Self-identified social class	63	27	31	17510	-	0.133	0.132	0.134
ISSP (2002)	907	47.68	Portugal	0.59	0.31	Household income & education composite	Ladder ranking	63	27	31	18990	-	0.163	0.172	0.144
ISSP (2008)	571	49.38	Portugal	0.60	0.36	Household income & education composite	Ladder ranking	63	27	31	25080	36.6	0.261	0.271	0.241
ISSP (2011)	842	51.60	Portugal	0.58	0.26	Household income & education composite	Ladder ranking	63	27	31	26410	36.3	0.233	0.213	0.273
Graham et al. (2004)	5007	40.67	Russia	0.58	-	Household income & education composite	-	93	39	36	-	-	0.082	0.082	-
ISSP (1991)	2518	41.07	Russia	0.55	0.08	Household income & education composite	Ladder ranking	93	39	36	-	-	0.029	0.029	-
ISSP (1998)	1377	42.73	Russia	0.55	0.06	Household income & education composite	Self-identified social class	93	39	36	6650	-	0.022	0.007	0.052



Table 1. (cont)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individualism	Masculinity	Economic development	Income Inequality	SES-SWB	Objective SES-SWB	Subjective SES-SWB
ISSP (2002)	1339	46.88	Russia	0.61	0.05	Household income & education composite	-	93	39	36	7880	37.1	0.157	0.157	-
ISSP (2007)	1902	45.76	Russia	0.65	0.07	Household income & education composite	Ladder ranking	93	39	36	16280	42.3	0.048	0.048	0.048
ISSP (2008)	781	46.93	Russia	0.64	0.12	Household income & education composite	Ladder ranking	93	39	36	19600	41.4	0.275	0.233	0.360
ISSP (2011)	1090	48.12	Russia	0.65	0.15	Household income & education composite	Ladder ranking	93	39	36	21850	41.0	0.340	0.276	0.469
Aboahshamat et al. (2015)	422		Saudi Arabia	0.53	0.84	Household income	Household income	95	25	60	50450		0.105	0.105	-
Reddit Singapore Survey	1167		Singapore	0.17	-	-	Self-identified social class	74	20	48	74740	46.4	0.172	-	0.172
ISSP (1998)	1237	39.42	Slovak Republic	0.52	0.16	Household income & education composite	Self-identified social class	100	52	100	11100	-	0.126	0.105	0.170
ISSP (2002)	1100	43.06	Slovak Republic	0.52	0.26	Household income & education composite	Ladder ranking	100	52	100	13090	-	0.151	0.146	0.159
ISSP (2007)	918	46.80	Slovak Republic	0.61	0.34	Household income & education composite	Ladder ranking	100	52	100	20800	28.0	0.130	0.091	0.207
ISSP (2008)	901	46.80	Slovak Republic	0.61	0.34	Household income & education composite	Ladder ranking	100	52	100	23400	26.9	0.229	0.174	0.339
ISSP (2011)	711	51.93	Slovak Republic	0.54	0.30	Household income & education composite	Ladder ranking	100	52	100	24260	26.6	0.293	0.262	0.356

Table 1. (cont.)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individualism	Masculinity	Economic development	Income inequality	Objective SES-SWB <sub>r</sub>	Subjective SES-SWB <sub>r</sub>
ISSP (1991)	1509	42.20	Slovenia	0.52	0.06	Household income & education composite	-	71	27	19	-	-	0.149	-
ISSP (1998)	745	45.50	Slovenia	0.51	0.19	Household income & education composite	Self-identified social class	71	27	19	17920	-	0.086	0.090
ISSP (2002)	670	46.54	Slovenia	0.54	0.27	Household income & education composite	Ladder ranking	71	27	19	20030	-	0.188	0.231
ISSP (2007)	517	46.57	Slovenia	0.53	0.31	Household income & education composite	Ladder ranking	71	27	19	27140	24.4	0.181	0.162
ISSP (2008)	620	46.66	Slovenia	0.55	0.18	Household income & education composite	Ladder ranking	71	27	19	28920	23.7	0.255	0.343
ISSP (2011)	492	48.64	Slovenia	0.55	0.17	Household income & education composite	Ladder ranking	71	27	19	28290	24.9	0.222	0.217
Cramm et al. (2010)	1011	30.00	South Africa	0.73	-	Household income & education composite	-	49	65	63	-	63.0	0.152	-
Cramm, Möller, & Nieboer (2012)	1020		South Africa	0.73	-	Household income & education composite	-	49	65	63	-	25.0	0.145	-
ISSP (2007)	2181	38.69	South Africa	0.58	0.08	Household income & education composite	Ladder ranking	49	65	63	10980	64.8	0.243	0.313
ISSP (2008)	2682	40.47	South Africa	0.58	0.09	Household income & education composite	Ladder ranking	49	65	63	11410	63.0	0.263	0.367
ISSP (2011)	2166	40.59	South Africa	0.59	0.10	Household income & education composite	Ladder ranking	49	65	63	11980	63.4	0.317	0.401

Table 1. (cont)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individualism	Masculinity	Economic development	Income Inequality	SES-SWB	Objective SES-SWB	Subjective SES-SWB
													SWB <sub>r</sub>	SWB <sub>r</sub>	r
Møller & Saris (2001)	1848	38.86	South Africa	0.56	-	Household income	-	49	65	63	-	-	0.293	0.293	-
Ha & Kim (2012)	1551	43.45	South Korea	0.52	0.37	Household income & education composite	-	60	18	39	28330	31.4	-0.180	-0.180	-
ISSP (2007)	1366	44.25	South Korea	0.54	0.06	Household income & education composite	Ladder ranking	60	18	39	27790	31.2	0.145	0.124	0.188
ISSP (2008)	1446	44.60	South Korea	0.54	0.35	Household income & education composite	Ladder ranking	60	18	39	28720	31.4	0.278	0.255	0.322
ISSP (2011)	1399	45.98	South Korea	0.55	0.38	Household income & education composite	Ladder ranking	60	18	39	31510	31.1	0.237	0.213	0.283
Park et al. (2014)	4165	73.97	South Korea	1.00	-	Household income & education composite	-	60	18	39	28720	31.4	0.205	0.205	-
Guardiola & Guillen-Royo (2015)	907	52.43	Spain	0.57	-	Household income & education composite	-	57	51	42	32160	35.9	0.093	0.093	-
ISSP (1998)	1691	45.34	Spain	0.52	0.17	Household income & education composite	Self-identified social class	57	51	42	21790	-	0.117	0.130	0.090
ISSP (2002)	1556	45.99	Spain	0.52	0.18	Household income & education composite	-	57	51	42	24390	-	0.119	0.119	-
ISSP (2008)	1641	48.26	Spain	0.50	0.24	Household income & education composite	Ladder ranking	57	51	42	32820	34.8	0.194	0.197	0.188
ISSP (2011)	1914	49.23	Spain	0.52	0.24	Household income & education composite	Ladder ranking	57	51	42	31970	36.1	0.203	0.198	0.212

Table 1. (cont.)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individualism	Masculinity	Economic development	Income Inequality	SES-SWB <sub>r</sub>	Objective SES-SWB <sub>r</sub>	Subjective SES-SWB <sub>r</sub>
Requena (1995)	1200	44.78	Spain	0.52	-	Household income & education composite	-	57	51	42	-	-	0.128	0.128	-
ISSP (1998)	1009	44.11	Sweden	0.53	0.06	Household income & education composite	Self-identified social class	31	71	5	29390	-	0.027	0.004	0.073
ISSP (2002)	923	47.00	Sweden	0.54	0.08	Household income & education composite	Ladder ranking	31	71	5	30860	-	0.088	0.071	0.122
ISSP (2007)	1122	48.20	Sweden	0.53	0.07	Household income & education composite	Ladder ranking	31	71	5	42010	26.9	0.081	0.053	0.139
ISSP (2008)	1031	47.69	Sweden	0.51	0.04	Household income & education composite	Ladder ranking	31	71	5	43580	27.1	0.110	0.040	0.251
ISSP (2011)	989	50.02	Sweden	0.53	0.04	Household income & education composite	Ladder ranking	31	71	5	45020	27.2	0.199	0.142	0.313
Lindfors et al. (2014)	1462	29.41	Sweden	0.89	-	-	Self-identified social class	31	71	5	32600	26.5	0.058	-	0.058
ISSP (1998)	1006	43.91	Switzerland	0.53	0.25	Household income & education composite	Self-identified social class	31	71	5	36810	-	0.014	0.014	0.015
ISSP (2002)	684	49.00	Switzerland	0.51	0.10	Household income & education composite	Ladder ranking	31	71	5	37390	-	0.135	0.059	0.288
ISSP (2007)	755	50.51	Switzerland	0.58	0.22	Household income & education composite	Ladder ranking	31	71	5	47760	34.5	0.104	0.082	0.147
ISSP (2008)	868	50.07	Switzerland	0.51	0.50	Household income & education composite	Ladder ranking	31	71	5	47200	34.0	0.575	0.175	1.376

Table 1. (cont.)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individualism	Masculinity	Economic development	Income inequality	SES-SWB <sub>r</sub>	Objective SES-SWB <sub>r</sub>	Subjective SES-SWB <sub>r</sub>
ISSP (2011)	889	48.92	Switzerland	0.49	0.47	Household income & education composite	Ladder ranking	31	71	5	55080	31.8	0.119	0.072	0.213
Chang (2012)	1502	41.27	Taiwan	0.56	0.14	Household income & education composite	-	58	17	45	-	34.0	0.043	0.058	-
Cornman et al. (2012)	665	66.20	Taiwan	0.44	-	Household income & education composite	-	58	17	45	-	32.6	0.222	0.177	0.313
Ip & Cheung (2014)	1136	-	Taiwan	0.51	-	Household income & education composite	-	58	17	45	-	34.0	0.054	0.054	-
ISSP (2002)	1868	43.47	Taiwan	0.51	0.08	Household income & education composite	-	58	17	45	-	34.5	0.126	0.126	-
ISSP (2007)	1975	45.29	Taiwan	0.50	0.05	Household income & education composite	Ladder ranking	58	17	45	-	34.0	0.016	-0.004	0.056
ISSP (2008)	1747	45.90	Taiwan	0.49	0.05	Household income & education composite	-	58	17	45	-	34.1	0.041	0.041	-
ISSP (2011)	802	46.77	Taiwan	0.51	0.06	Household income & education composite	Ladder ranking	58	17	45	-	33.8	0.139	0.078	0.262
Ariyabuddhiphongs & Janwong (2010)	400	-	Thailand	0.53	0.55	Household income & education composite	-	64	20	34	11880	40.3	0.077	0.077	-
Canfield et al. (2009)	329	44.91	Thailand	0.53	-	Education attainment	-	64	20	34	9130	41.8	0.122	0.122	-
ISSP (2008)	1450	39.59	Turkey	0.55	0.07	Household income & education composite	Ladder ranking	66	37	45	15010	38.3	0.151	0.098	0.255

Table 1. (cont.)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individualism	Masculinity	Economic development	Income Inequality	SES-SWB <sub>r</sub>	Objective SES-SWB <sub>r</sub>	Subjective SES-SWB <sub>r</sub>
ISSP (2011)	1298	42.08	Turkey	0.60	0.10	Household income & education composite	Ladder ranking	66	37	45	17960	40.0	0.100	0.058	0.184
Selim (2008)	6338	-	Turkey	0.50	-	Household income & education composite	-	66	37	45	-	49.0	0.121	0.060	-
Sivis-Celinkaya (2013)	991	21.00	Turkey	0.63	-	-	Self-identified social class	66	37	45	18030	40.2	0.064	-	0.060
Binder & Coad (2011)	11591	46.51	UK	0.53	-	Household income & education composite	-	35	89	66	37340	34.8	0.049	0.049	-
Boyce et al. (2010)	86679	45.99	UK	0.55	-	Household income & education composite	-	35	89	66	-	35.2	0.013	0.013	-
Easterbrook et al. (2015)	9418	48.45	UK	0.56	0.37	Household income	-	35	89	66	-	33.7	0.010	0.010	-
Easterbrook et al. (2015)	9418	48.45	UK	0.56	0.37	Education attainment	-	35	89	66	-	33.7	0.030	0.030	-
Flouri (2004)	2203	42.00	UK	1.00	-	Education attainment	-	35	89	66	27640	35.2	0.072	0.072	-
Hunter et al. (2008)	153	52.30	UK	1.00	-	Education attainment	-	35	89	66	37340	-	0.273	0.091	-
ISSP (1991)	1056	47.84	UK	0.54	0.41	Household income & education composite	-	35	89	66	-	-	0.088	0.088	-
ISSP (1998)	726	48.62	UK	0.60	0.37	Household income & education composite	-	35	89	66	-	-	0.008	0.008	-
ISSP (2002)	1745	48.69	UK	0.57	0.39	Household income & education composite	-	35	89	66	30590	33.5	0.022	0.022	-
ISSP (2007)	777	50.19	UK	0.58	0.44	Household income & education composite	-	35	89	66	37920	35.9	0.018	0.018	-

Table 1. (cont.)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individualism	Masculinity	Economic development	Income inequality	SES-SWB <sub>r</sub>	Objective SES-SWB <sub>r</sub>	Subjective SES-SWB <sub>r</sub>
ISSP (2008)	1684	50.18	UK	0.65	0.44	Household income & education composite	-	35	89	66	37910	34.4	0.086	0.086	-
ISSP (2011)	757	49.72	UK	0.57	0.30	Household income & education composite	-	35	89	66	37050	33.7	0.123	0.123	-
Jetten et al. (2013)	816	18.45	UK	0.64	-	-	Self-identified social class	35	89	66	36320	32.6	0.203	-	0.203
Luhmann et al. (2011)	37041	36.50	UK	0.51	-	Household income	-	35	89	66	-	34.8	0.077	0.077	-
Saniet al. (2010)	113	34.00	UK	0.66	-	-	Ladder ranking	35	89	66	36500	45.6	0.485	0.485	-
Singh-Manoux et al. (2003)	6981	-	UK	-	-	Household income & education composite	-	35	89	66	27640	34.0	0.141	0.074	0.343
Zagafka & Brown (2005)	235	-	UK	0.46	-	-	Referent group comparison	35	89	66	-	35.2	0.229	-	0.229
ISSP (2008)	1190	48.35	Ukraine	0.52	0.17	Household income & education composite	Ladder ranking	92	25	27	8340	26.6	0.307	0.281	0.359
ISSP (2007)	1343	47.56	Uruguay	0.59	0.13	Household income & education composite	Ladder ranking	61	36	38	13200	47.6	0.169	0.136	0.234
ISSP (2008)	970	46.96	Uruguay	0.62	0.08	Household income & education composite	Ladder ranking	61	36	38	14270	46.3	0.144	0.134	0.165
Adler et al. (2000)	153	37.40	USA	1.00	-	Household income & education composite	Ladder ranking	40	91	62	36930	40.5	0.226	0.131	0.321
Anderson et al. (2012)	88	20.40	USA	0.47	0.77	Household income & education composite	Ladder ranking	40	91	62	48880	40.5	0.037	0.019	0.127

Table 1. (cont.)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individualism	Masculinity	Economic development	Income inequality	SES-SWB <sub>r</sub>	Objective SES-SWB <sub>r</sub>	Subjective SES-SWB <sub>r</sub>
Anderson et al. (2012)	294	32.80	USA	0.64	0.52	Household income & education composite	-	40	91	62	48880	40.5	0.042	0.042	-
Baldassarre et al. (1984)	202	-	USA	-	-	Education attainment	-	40	91	62	-	-	0.182	0.182	-
Benyamini et al. (2004)	830	73.00	USA	0.60	-	Education attainment	-	40	91	62	-	40.5	0.061	0.061	-
Bratte (2001)	282	69.18	USA	0.50	-	Household income	-	40	91	62	-	-	-0.030	-0.030	-
Bratte (2001)	884	71.45	USA	0.79	-	Household income	-	40	91	62	-	-	-0.035	-0.035	-
Chappellet et al. (2012)	183	12.70	USA	0.64	-	Household income	-	40	91	62	-	40.5	0.188	0.188	-
Curhan et al. (2015)	1805	56.90	USA	0.55	-	Education attainment	Ladder ranking	40	91	62	42260	38.0	0.233	0.065	0.401
Davis & Wu (2013)	23716	44.15	USA	0.57	0.81	Household income & education composite	-	40	91	62	48420	40.5	0.179	0.179	-
Davis & Wu (2013)	1012340	48.10	USA	0.60	0.78	Household income & education composite	-	40	91	62	48420	40.5	0.244	0.244	-
Davis & Wu (2013)	82826	42.80	USA	0.62	0.59	Household income & education composite	-	40	91	62	48420	40.5	0.190	0.190	-
Davis & Wu (2013)	100933	46.25	USA	0.69	0.60	Household income & education composite	-	40	91	62	48420	40.5	0.178	0.178	-
Downing (2012)	225	21.76	USA	0.69	0.72	Household income & education composite	Ladder ranking	40	91	62	48880	40.5	0.069	0.039	0.130
Eom (2016)	305	33.14	USA	0.45	0.49	Household income & education composite	Ladder ranking	40	91	62	52830	41.1	0.124	-0.013	0.198
Faas (2013)	1530	-	USA	-	-	Household income	Ladder ranking	40	91	62	47250	40.5	0.113	0.025	0.288



Table 1. (cont)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individuals	Masculinity	Economic development	Income Inequality	SES-SWB <sub>r</sub>	Objective SES-SWB <sub>r</sub>	Subjective SES-SWB <sub>r</sub>
Francis-sharnowski (2009)	200	22.78	USA	0.57	-	Parents' education attainment	-	40	91	62	-	41.8	0.131	0.131	-
Freedman et al. (2012)	751	-	USA	0.50	0.63	Household income	-	40	91	62	47250	40.5	0.052	0.052	-
Gianaros et al. (2007)	100	44.70	USA	0.56	0.75	Household income & education composite	-	40	91	62	47390	41.8	0.209	0.141	0.277
GSS 1972	1468	44.95	USA	0.50	0.44	Household income & education composite	Self-identified social class	40	91	62	-	31.6	0.129	0.108	0.171
GSS 1973	1393	44.18	USA	0.53	0.63	Household income & education composite	Self-identified social class	40	91	62	-	31.6	0.128	0.124	0.134
GSS 1974	1354	44.59	USA	0.53	0.64	Household income & education composite	Self-identified social class	40	91	62	-	31.6	0.129	0.114	0.160
GSS 1975	1403	44.31	USA	0.55	0.65	Household income & education composite	Self-identified social class	40	91	62	-	31.6	0.132	0.115	0.165
GSS 1976	1394	45.29	USA	0.55	0.66	Household income & education composite	Self-identified social class	40	91	62	-	31.6	0.134	0.138	0.125
GSS 1977	1397	44.66	USA	0.55	0.71	Household income & education composite	Self-identified social class	40	91	62	-	31.0	0.155	0.156	0.154
GSS 1978	1419	44.01	USA	0.58	0.70	Household income & education composite	Self-identified social class	40	91	62	-	31.0	0.102	0.092	0.123
GSS 1980	1353	44.97	USA	0.56	0.75	Household income & education composite	Self-identified social class	40	91	62	-	30.7	0.162	0.150	0.185

Table 1. (cont.)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individualism	Masculinity	Economic development	Income inequality	SES-SWB <sub>r</sub>	Objective SES-SWB <sub>r</sub>	Subjective SES-SWB <sub>r</sub>
GSS 1982	1677	44.86	USA	0.58	0.74	Household income & education composite	Self-identified social class	40	91	62	-	32.8	0.148	0.145	0.155
GSS 1983	1430	44.30	USA	0.57	0.80	Household income & education composite	Self-identified social class	40	91	62	-	33.6	0.128	0.139	0.105
GSS 1984	1320	44.00	USA	0.59	0.80	Household income & education composite	Self-identified social class	40	91	62	-	33.7	0.151	0.160	0.134
GSS 1986	1329	45.43	USA	0.58	0.81	Household income & education composite	Self-identified social class	40	91	62	-	33.9	0.168	0.148	0.208
GSS 1987	1637	44.92	USA	0.57	0.81	Household income & education composite	Self-identified social class	40	91	62	-	34.0	0.164	0.130	0.231
GSS 1988	1346	45.37	USA	0.57	0.83	Household income & education composite	Self-identified social class	40	91	62	-	34.4	0.127	0.107	0.168
GSS 1989	1371	45.44	USA	0.57	0.85	Household income & education composite	Self-identified social class	40	91	62	-	34.8	0.141	0.126	0.172
GSS 1990	1223	45.96	USA	0.56	0.86	Household income & education composite	Self-identified social class	40	91	62	-	34.9	0.128	0.113	0.157
GSS 1991	1358	45.63	USA	0.58	0.84	Household income & education composite	Self-identified social class	40	91	62	-	34.6	0.177	0.164	0.204
GSS 1993	1463	46.05	USA	0.57	0.86	Household income & education composite	Self-identified social class	40	91	62	-	36.9	0.159	0.151	0.176
GSS 1994	2627	45.97	USA	0.57	0.88	Household income & education composite	Self-identified social class	40	91	62	-	36.6	0.163	0.150	0.190

Table 1. (cont)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individualism	Masculinity	Economic development	Income Inequality	SES-SWB <sub>r</sub>	Objective SES-SWB <sub>r</sub>	Subjective SES-SWB <sub>r</sub>
GSS 1996	2544	44.78	USA	0.56	0.89	Household income & education composite	Self-identified social class	40	91	62	-	36.3	0.142	0.130	0.165
GSS 1998	2481	45.56	USA	0.57	0.89	Household income & education composite	Self-identified social class	40	91	62	-	35.7	0.171	0.148	0.216
GSS 2000	2421	46.02	USA	0.56	0.89	Household income & education composite	Self-identified social class	40	91	62	3.6930	40.5	0.160	0.161	0.159
GSS 2002	1223	46.28	USA	0.56	0.90	Household income & education composite	Self-identified social class	40	91	62	3.8590	40.5	0.150	0.130	0.190
GSS 2004	1173	45.96	USA	0.55	0.91	Household income & education composite	Self-identified social class	40	91	62	4.2260	40.5	0.145	0.140	0.155
GSS 2008	1770	47.71	USA	0.54	0.91	Household income & education composite	Self-identified social class	40	91	62	4.8640	41.8	0.172	0.150	0.216
GSS 2010	1804	47.97	USA	0.56	0.89	Household income & education composite	Self-identified social class	40	91	62	4.8880	40.5	0.150	0.134	0.180
GSS 2012	1752	48.19	USA	0.55	0.91	Household income & education composite	Self-identified social class	40	91	62	5.2830	41.1	0.141	0.118	0.189
GSS 2014	2310	49.01	USA	0.55	-	Household income & education composite	Self-identified social class	40	91	62	5.2830	41.1	0.154	0.147	0.169
Hart et al. (2005)	30	37.30	USA	0.05	-	Household income	-	40	91	62	-	40.5	0.182	0.182	-
Hart et al. (2005)	49	41.60	USA	0.27	-	Household income	-	40	91	62	-	40.5	0.214	0.214	-
ISSP (1991)	1233	45.46	USA	0.59	0.63	Household income & education composite	Ladder ranking	40	91	62	-	34.6	0.130	0.127	0.137

Table 1. (cont)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individualism	Masculinity	Economic development	Income Inequality	SES-SWB <sub>r</sub>	Objective SES-SWB <sub>r</sub>	Subjective SES-SWB <sub>r</sub>
ISSP (1998)	1150	45.15	USA	0.55	0.36	Household income & education composite	Self-identified social class	40	91	62	-	35.7	0.142	0.125	0.177
ISSP (2002)	1068	44.94	USA	0.58	0.39	Household income & education composite	-	40	91	62	38590	40.5	0.101	0.101	-
ISSP (2007)	1406	49.41	USA	0.58	0.40	Household income & education composite	-	40	91	62	48420	41.8	0.082	0.082	-
ISSP (2008)	1209	47.99	USA	0.55	0.35	Household income & education composite	-	40	91	62	48640	41.8	0.154	0.154	-
ISSP (2011)	1411	50.00	USA	0.58	0.38	Household income & education composite	-	40	91	62	50700	41.1	0.113	0.113	-
Johnson & Krueger (2006)	1996		USA	0.58	0.54	Household income & education composite	-	40	91	62	-	-	0.090	0.090	-
Jones et al. (2003)	129	75.40	USA	0.66	-	Household income & education composite	-	40	91	62	36390	40.5	0.180	0.180	-
Jones et al. (2003)	129	75.40	USA	0.66	-	Household income & education composite	-	40	91	62	36390	40.5	0.090	0.090	-
Kasser & Sheldon (2008)	73	43.30	USA	0.63	-	Household income	-	40	91	62	48420	41.8	0.224	0.224	-
Kasser & Sheldon (2008)	134	43.30	USA	0.64	-	Household income	-	40	91	62	42260	40.5	0.343	0.343	-
Kehn (1995)	98	72.65	USA	0.75	-	Education attainment	-	40	91	62	-	36.1	0.094	0.094	-
Keyes et al. (2002)	3021		USA	0.52	-	Household income & education composite	-	40	91	62	-	47.7	0.104	-0.003	-

Table 1. (cont.)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individualism	Masculinity	Economic development	Income inequality	SES-SWB <sub>r</sub>	Objective SES-SWB <sub>r</sub>	Subjective SES-SWB <sub>r</sub>
Kwate & Goodman (2014)	630	45.28	USA	0.58	-	Household income & education composite	Ladder ranking	40	91	62	48880	40.5	0.249	0.175	0.399
Luhmann et al. (2014)	5975	69.50	USA	0.60	-	Household income	-	40	91	62	48640	41.8	0.162	0.088	-
Morris (1997)	215		USA	0.69	0.50	Education attainment	-	40	91	62	-	36.1	0.199	0.199	-
Morris (1997)	215		USA	0.69	-	Household income	-	40	91	62	-	36.1	0.099	0.099	-
Oshio et al. (2011)	2576	43.10	USA	0.56	-	Household income & education composite	Ladder ranking	40	91	62	47390	41.8	0.155	0.137	0.211
Ramkin et al. (2009)	151		USA	0.57	0.68	Household income & education composite	-	40	91	62	44740	41.8	0.168	0.168	-
Reitzel et al. (2014)	2274	43.00	USA	0.58	0.63	Household income & education composite	Ladder ranking	40	91	62	48880	38.9	0.254	0.156	0.452
Requena (1995)	1419	45.71	USA	0.55	-	Household income & education composite	Self-identified social class	40	91	62	-	34.0	0.128	0.117	0.150
Riddick (1985)	1559	72.55	USA	0.48	-	Personal income	-	40	91	62	-	34.0	0.261	0.261	-
Silver, Holman, & Poulin (2002 - NSF funded data)	2035	47.30	USA	0.46	0.62	Household income	-	40	91	62	38590	40.5	0.166	0.166	-
Tan et al. (under review)	160	24.02	USA	0.52	-	Education attainment	Ladder ranking	40	91	62	-	41.8	0.167	0.100	0.234
Tan et al. (under review)	599	34.60	USA	0.54	0.58	Household income & education composite	Ladder ranking	40	91	62	-	41.1	0.269	0.183	0.399
Taylor et al. (2001)	2107	-	USA	-	-	Household income & education composite	-	40	91	62	-	-	0.040	-0.027	-
Thois & Hewitt (2001)	3617	-	USA	-	0.44	Household income & education composite	-	40	91	62	-	36.1	0.030	0.030	-

Table 1. (cont.)

Study	N	Mean Age	Country	Proportion of female	Sample-level income	Objective SES measure	Subjective SES measure	Power distance	Individualism	Masculinity	Economic development	Income inequality	SES-SWB $r$	Objective SES-SWB $r$	Subjective SES-SWB $r$
Weaver(2003)	5835	45.50	USA	-	-	Education attainment	Ladder ranking	40	91	62	-	-	0.136	0.085	0.187
Weaver(2003)	7170	36.40	USA	-	-	Education attainment	Ladder ranking	40	91	62	-	-	0.152	0.099	0.205
Weaver(2003)	276	48.00	USA	1.00	-	Education attainment	Ladder ranking	40	91	62	-	-	0.101	0.046	0.156
Weaver(2003)	323	35.80	USA	1.00	-	Education attainment	Ladder ranking	40	91	62	-	-	0.093	0.080	0.105
Westerhof & Barrett(2005)	1736	54.01	USA	0.50	-	Household income & education composite	-	40	91	62	-	47.7	0.108	0.043	-
Ali (2006)	300	29.41	USA (Pakistani Muslims)	0.52	0.74	Household income	-	40	91	62	47390	41.8	0.109	0.109	-
Orviska et al. (2012)	21940	-	-	-	-	Household income & education composite	-	-	-	-	-	-	0.131	0.131	-
Varnum (2008)	999	-	-	-	-	-	Self-identified social class	-	-	-	-	-	0.245	-	0.245

Figure 1. Funnel plot of effect sizes for all studies with objective social class. Standard errors of are plotted against the effect sizes.

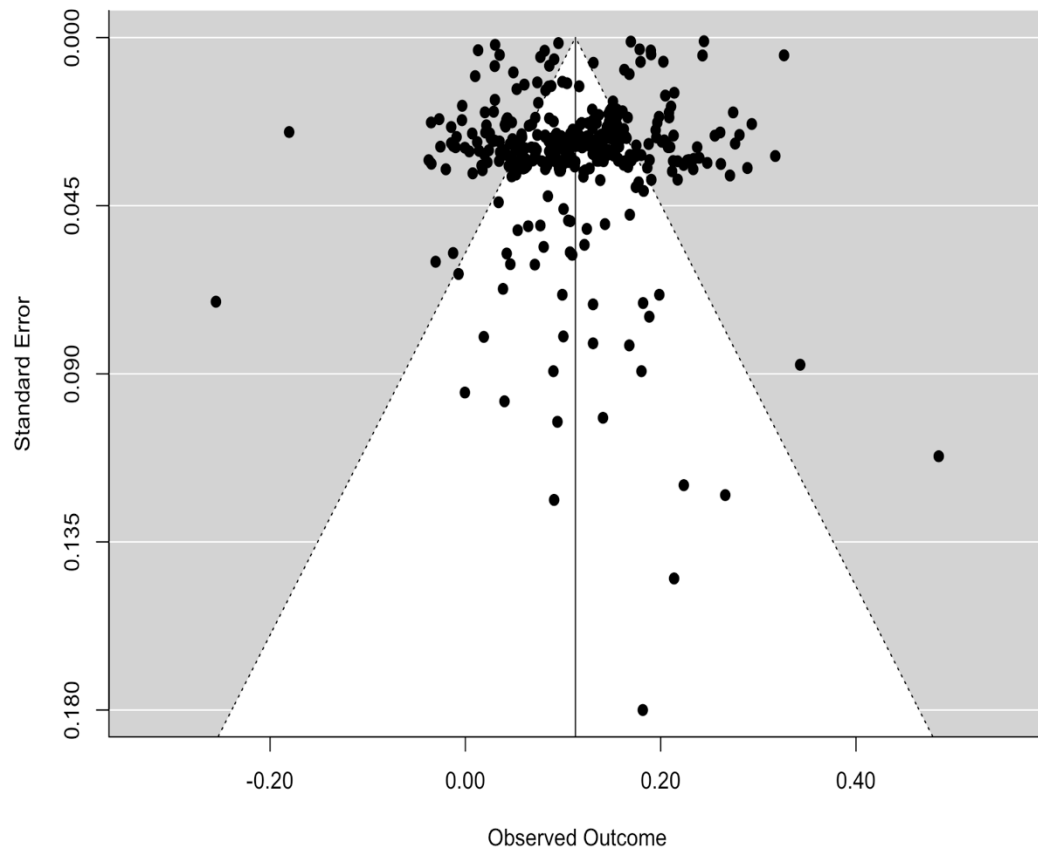


Figure 2. Funnel plot of effect sizes for studies with objective social class in multivariate samples. Standard errors are plotted against effect sizes.

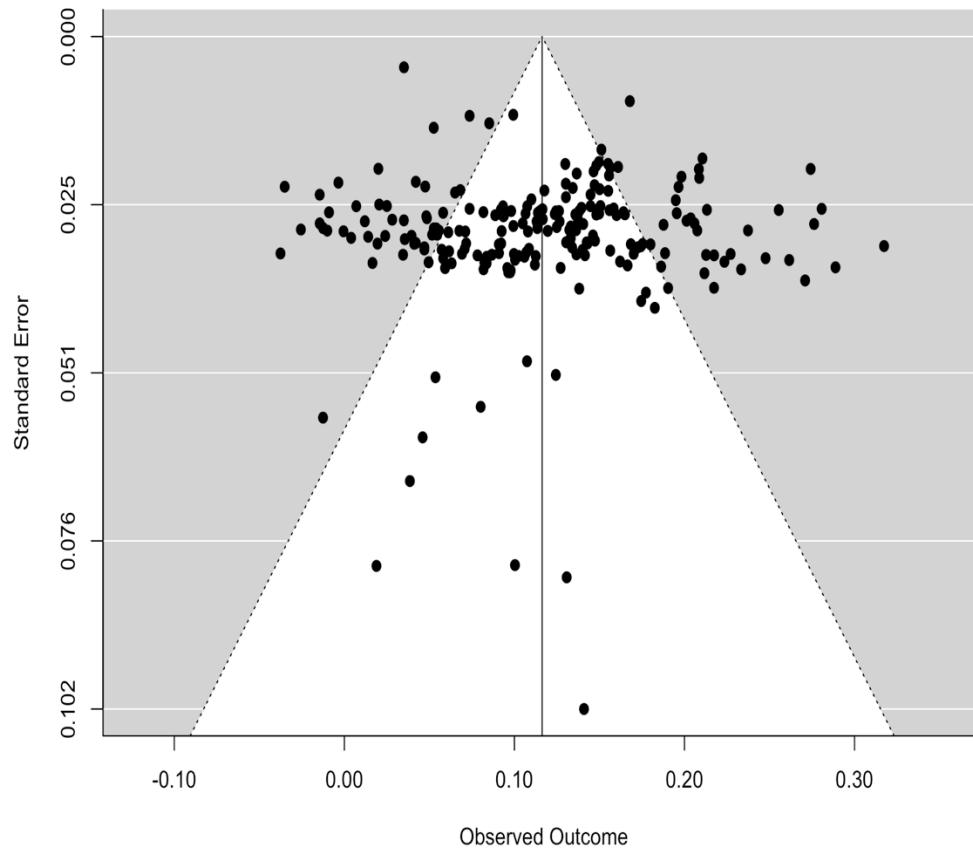




Figure 3. Funnel plot of effect sizes for all studies with subjective social class. Standard errors of are plotted against the effect sizes.

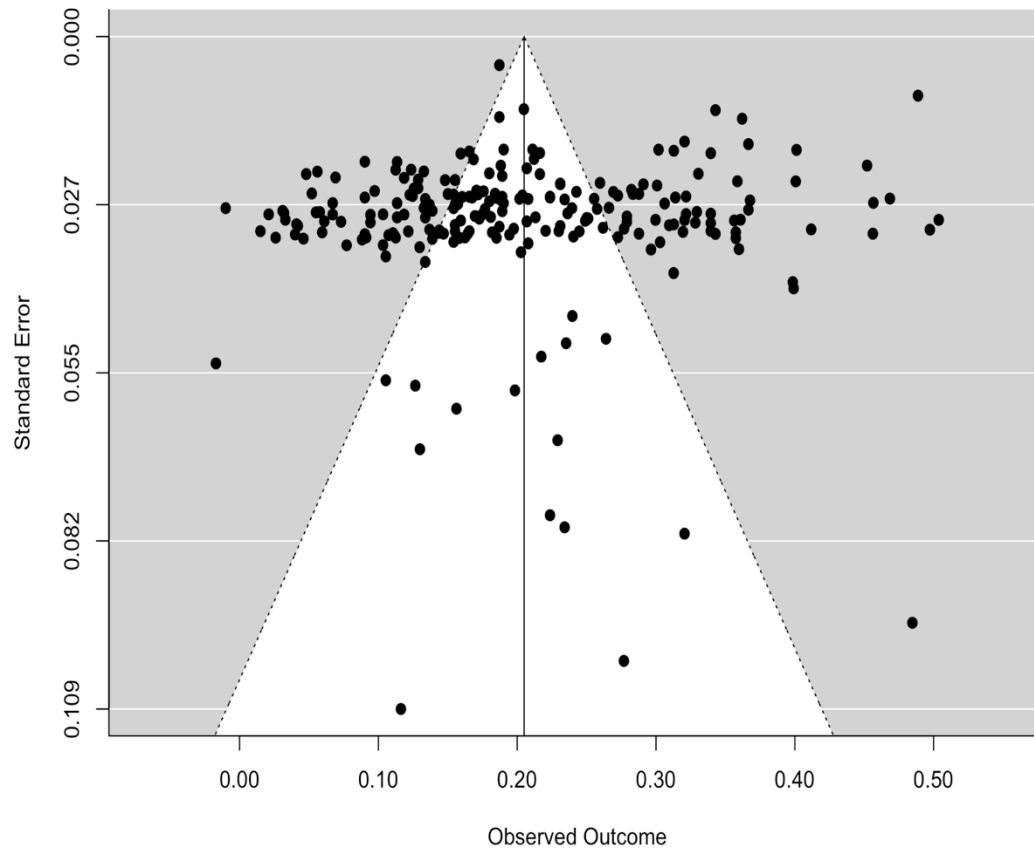
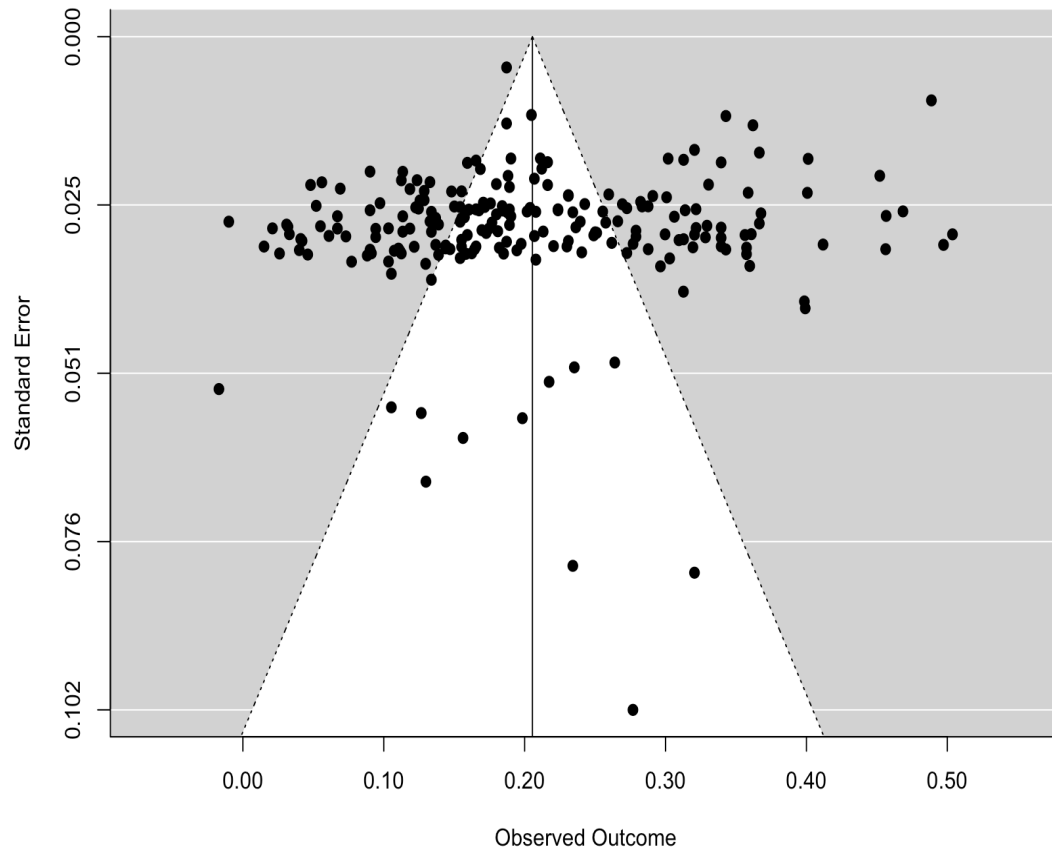


Figure 4. Funnel plot of effect sizes for studies with subjective social class in multivariate samples. Standard errors are plotted against effect sizes.



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## APPENDIX A: RANDOM-EFFECTS UNIVARIATE ANALYSES FOR THE OBJECTIVE SOCIAL CLASS-SWB RELATION

In the main manuscript, random-effects analyses for the multivariate samples in testing the moderators were presented. This section presents the random-effects analyses conducted for all objective social class-SWB samples using the univariate approach.

Table A.1. SES and SWB constructs as moderators of the objective social class-SWB relation using univariate analyses

Moderator	Between-group effect ( $Q_b$ )	$k$	Mean $r$ effect size	SE	95% CI: Lower limit	95% CI: Upper limit	Within-group homogeneity ( $Q_w$ )
Objective SES construct	30.42**						423.60**
Income		306	0.144	0.009	0.127	0.162	
Education		302	0.081	0.004	0.073	0.088	
SWB construct	0.387						450.11**
Happiness		228	0.115	0.005	0.105	0.125	
Satisfaction		86	0.121	0.009	0.104	0.138	

Note. Significant  $Q$  statistic rejects the null hypothesis that there is no difference between groups or within groups. \*\*  $p < .01$



Table A.2. Meta-regression with objectivesocialclass-SWB effect size regressed onto each moderator

Parameter	Estimate	SE	z value	95% CI: Lower limit	95% CI: Upper limit	$Q_{model}$
<b>Age</b>						
$b_1$	0.106	0.01	10.58**	0.086	0.01	0.059
$b_2$	0.0001	0	0.244	0	0.244	
<b>Gender</b>						
$b_1$	0.113	0.01	11.22**	0.094	0.13	0.00001
$b_2$	0.0001	0.0001	0.0007	0	-0.0001	
<b>Sample-level income</b>						
$b_1$	0.108	0.027	3.95**	0.053	0.158	0.02
$b_2$	-0.01	0.07	-0.142	0.128	0.07	
<b>Economic development</b>						
$b_1$	0.124	0.015	8.56**	0.096	0.152	4.48*
$b_2$	-0.023	0.011	-2.12*	-0.044	-0.002	
<b>Income inequality</b>						
$b_1$	0.12	0.01	11.49**	0.099	0.14	0.569
$b_2$	-0.001	0.002	-0.754	-0.004	0.002	
<b>Individualism</b>						
$b_1$	0.111	0.009	12.02**	0.129	0.009	0.369
$b_2$	-0.0002	0.0003	-0.608	0.0005	0.0003	
<b>Power distance</b>						
$b_1$	0.111	0.009	12.65**	0.094	0.128	2.49
$b_2$	0.0008	0.0005	1.58	-0.0002	0.002	
<b>Masculinity</b>						
$b_1$	0.109	0.009	12.29**	0.092	0.127	0.848
$b_2$	0.0005	0.0006	0.92	0.002	0.0006	

Note. z value tests the null hypothesis that the parameter is zero in the population. \* $p < .05$ , \*\* $p < .01$

## APPENDIX B: RANDOM-EFFECTS UNIVARIATE ANALYSES FOR THE SUBJECTIVE SOCIAL CLASS-SWB RELATION

In the main manuscript, random-effects analyses for the multivariate samples in testing the moderators were presented. This section presents the random-effects analyses conducted for all subjective social class-SWB samples using the univariate approach.

Table B.1. SES and SWB constructs as moderators of the subjective social class-SWB relation using univariate analyses

Moderator	Between-group effect ( $Q_b$ )	$k$	Mean $r$ effect size	SE	95% CI: Lower limit	95% CI: Upper limit	Within-group homogeneity ( $Q_w$ )
Objective SES construct	43.25**						318.62*
Ladder ranking		164	0.224	0.01	0.204	0.243	
Self-identified social class		67	0.118	0.013	0.013	0.143	
SWB construct	2.574						204.98**
Happiness		195	0.203	0.01	0.184	0.223	
Satisfaction		20	0.256	0.031	0.195	0.318	

Note. Significant Q statistic rejects the null hypothesis that there is no difference between groups or within groups. \* $p < .05$ , \*\* $p < .01$

Table B.2. Meta-regression with subjective social class-SWB effect size regressed onto each moderator

Parameter	Estimate	SE	z value	95% CI: Lower limit	95% CI: Upper limit	$Q_{\text{model}}$
Age						0.485
$b_1$	0.081	0.146	0.553**	-0.205	0.336	
$b_2$	0.004	0.006	0.696	-0.008	0.016	
Gender						0.328
$b_1$	0.223	0.079	2.82**	0.068	0.378	
$b_2$	-0.077	0.133	-0.572	-0.338	0.185	
Sample-level income						1.54
$b_1$	0.22	0.016	13.67**	0.189	0.252	
$b_2$	-0.05	0.04	-1.24	0.029	0.04	
Economic development						1.297
$b_1$	0.211	0.011	19.00**	0.189	0.233	
$b_2$	0.009	0.008	1.14	-0.007	0.025	
Income inequality						2.26
$b_1$	0.161	0.037	4.37**	0.089	0.233	
$b_2$	0.006	0.004	1.5	-0.002	0.015	
Individualism						0.874
$b_1$	0.183	0.037	4.92**	0.11	0.256	
$b_2$	0.001	0.001	0.93	-0.001	0.004	
Power distance						0.176
$b_1$	0.184	0.038	4.84**	0.11	0.259	
$b_2$	-0.001	0.002	-0.42	-0.005	0.003	
Masculinity						5.75*
$b_1$	0.194	0.029	6.71**	0.138	0.251	
$b_2$	0.003	0.001	2.4*	0.001	0.006	

Note. z value tests the null hypothesis that the parameter is zero in the population. \*  $p < .05$ , \*\*  $p < .01$