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The Association Between Objective and Subjective Socioeconomic Status and Subjective Well-Being: A Meta-Analytic Review

Jacinth J. X. Tan
Singapore Management University

Michael W. Kraus
Yale University

Nichelle C. Carpenter
University of South Carolina

Nancy E. Adler
University of California, San Francisco

This meta-analysis tested if the links between socioeconomic status (SES) and subjective well-being (SWB) differ by whether SES is assessed objectively or subjectively. The associations between measures of objective SES (i.e., income and educational attainment), subjective SES (i.e., the MacArthur ladder SES and perceived SES), and SWB (i.e., happiness and life satisfaction) were synthesized across 357 studies, totaling 2,352,095 participants. Overall, the objective SES and subjective SES measures were moderately associated (r = .32). The subjective SES-SWB association (r = .22) was larger than the objective SES-SWB association (r = .16). The income-SWB association (r = .23) was comparable with the ladder SES-SWB association (r = .22) but larger than the perceived SES-SWB association (r = .196). The education-SWB association (r = .12) was smaller than the associations with both measures of subjective SES. The subjective SES-SWB association was partially explained by common method variance. The subjective SES-SWB association, particularly with the ladder SES measure, also mediated the objective SES-SWB association. In moderation analyses, the objective SES-SWB associations strengthened as samples increased in wealth and population density. The subjective SES-SWB associations strengthened as samples increased in population density, decreased in income inequality, and decreased in relative social mobility. The role of common method variance, social comparisons, and other processes in explaining the SES-SWB links are discussed.

Public Significance Statement
The current meta-analysis finds that subjective well-being (SWB) has a stronger link to socioeconomic status (SES) measured subjectively as relative rank than measured objectively as income or educational attainment. Common method variance, social comparisons, population density, and social mobility potentially explain some of the differences in associations. Future research on the SES and SWB link at the microlevel should consider the role of these processes.

Keywords: social class, socioeconomic status, subjective well-being, meta-analysis

Comparison is the death of joy.
—Mark Twain (n.d.)

The notion that having more money leads to greater happiness is a widely held lay belief. Although empirical research and reviews have challenged this notion, revealing a relatively weak link between one's personal socioeconomic status (SES) and happiness, or more generally, subjective well-being (SWB; Diener, Oishi, & Lucas, 2003; Howell & Howell, 2008), the exact nature of this link remains complex. For instance, the observed SES and SWB link appeared to vary depending on the level of aggregation: Analyses across countries yielded moderate to large associations, such that wealthier countries had much higher population level SWB (r =

Jacinth J. X. Tan, School of Social Sciences and Humanities, Singapore Management University; Michael W. Kraus, School of Management, Yale University; Nichelle C. Carpenter, Department of Management, Darla Moore School of Business, University of South Carolina; Nancy E. Adler, Department of Psychiatry, University of California, San Francisco.

Nichelle C. Carpenter is now at School of Management and Labor Relations, Department of Human Resources Management, Rutgers University.

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Correspondence concerning this article should be addressed to Jacinth J. X. Tan, School of Social Sciences and Humanities, Singapore Management University, 90 Stamford Road, Level 4, Singapore 178903. E-mail: jacinthtan@smu.edu.sg

.60 to .84; Diener, Diener, & Diener, 1995; Schyns, 1998; Veenhoven, 1991). However, analyses across individuals produced modest associations within moderately wealthy nations like China, India, and Russia (r = .10 to .36; Howell & Howell, 2008), and small associations within wealthy nations like the United States, Australia, and some European countries (r = .06 to .15; Diener & Oishi, 2000; Diener, Sandvik, Seidlitz, & Diener, 1993; Easterlin, 1995, 2001; Rojas, 2004). In the last meta-analysis examining the SES and SWB link on 54 economically developing countries (Howell & Howell, 2008), the strongest link was found among the less economically developed countries (r = .28) and less educated samples (r = .36), while the weakest link was found among the more economically developed countries (r = .10) and more educated samples (r = .13).

In the past two decades, the study of SES influences in health, clinical, and social psychology has offered a unique perspective on how SES defined in terms of one's social position or rank within the society, or subjective SES, can shape important life outcomes (Adler, Epel, Castellazzo, & Ickovics, 2000; Callan, Shead, & Olsen, 2011; Kraus, Piff, Mendoza-Denton, Rheinschmidt, & Keltner, 2012; Kraus, Tan, & Tannenbaum, 2013). A large body of work in the health domain has shown that assessments of subjective SES are consistently and strongly linked to health-related outcomes, even after controlling for associations with objective SES assessments of income and educational attainment (Adler et al., 2000; Cohen et al., 2008; Cundiff & Matthews, 2017; Kraus, Adler, & Chen, 2013). However, less is known about how subjective SES compares with objective SES in its links to SWB. This highlights a need to examine the objective and subjective SES associations with SWB, and to identify the psychological processes that may explain differences in their associations. To this end, we conducted a meta-analytic review that examined the associations between objective SES, subjective SES and SWB.

Empirical Traditions in the Study of SES and SWB

SWB is broadly characterized by an individual's emotional experiences and cognitive judgments of both domain-specific satisfaction and global satisfaction with aspects of one's life (Diener, Suh, Lucas, & Smith, 1999). The study of the link between SES and SWB has spanned decades, with early research focusing on the simple positive association between levels of income and reports of happiness (Easterlin, 1974; Veenhoven, 1988). As studies ramped up their scope, the *Easterlin Paradox* received the most attention—the observation that the positive association between income, measured by a country's gross domestic product, and happiness was weak among wealthy countries, (Easterlin, 1974). This led to a large body of work that sought to account for the variation in the SES-SWB link.

In one early account, *Need Theory* (Diener & Lucas, 2000; Howell & Howell, 2008; Veenhoven, 1988) proposed that the SES-SWB association depends on whether an individual's basic needs, like food and shelter, have been fulfilled. This theory predicted that higher income increases happiness only in poorer countries because individuals can benefit from additional income that fulfills their immediate basic needs, On the other hand, the same additional income is less consequential for individuals in wealthy countries where their basic needs have already been fulfilled (Diener & Biswas-Diener, 2002; Diener & Lucas, 2000). In support of this theory, several studies that compared the income and happiness associations across countries, including a meta-analysis conducted more than a decade ago (Howell & Howell, 2008), have shown that SWB was more strongly associated with income in poorer countries than in wealthier countries (e.g., Biswas-Diener & Diener, 2001; Camfield, Choudhury, & Devine, 2009; Diener et al., 2003; Fuentes & Rojas, 2001; Guillen-Royo & Velazco, 2006; Zavisca & Hout, 2005; although see, Diener, Tay, & Oishi, 2013).

A second account of the paradox highlights the role of comparative processes, described by the *Relativity Hypothesis*. The comparative process that has received the most attention is that of social comparisons of one's SES level relative to that of others (Diener et al., 1993; Easterlin, 1974, 2001; Graham, 2005; Stutzer, 2004). In essence, people care more about how much they have compared with others, or their relative SES, than simply how much they have absolutely. Therefore, the relativity hypothesis posited that relative SES would be more strongly linked to SWB than absolute SES. Most studies have tested this hypothesis by comparing the relative income and SWB association to the absolute income and SWB association. In these studies, relative income levels were derived from objective income measures, such as log income or the computed difference between one's current income level and the mean community income level (Cheung & Lucas, 2016; Clark, Frijters, & Shields, 2008; Clark & Oswald, 1998; Diener et al., 1993; Diener et al., 2013; Kahneman & Deaton, 2010; McBride, 2001). However, an inconsistent picture has emerged from these studies, with some finding a stronger association between relative income and SWB compared with absolute income and SWB (e.g., Diener et al., 1993; Stutzer, 2004), but not others (e.g., Diener et al., 1999, 2013; Diener & Fujita, 1997; Hagerty, 2000).

This collection of past research examining the relative income and SWB link suffers from two key limitations. The first pertains to the conceptual validity of the relative income measures. Although log income effects on SWB suggest a diminishing marginal utility of additional income for SWB at higher income levels (Easterlin, 1974; Easterlin & Sawangfa, 2010), it is unclear if this is indeed because of stronger social comparative effects among the rich or because of self-comparisons to the past or future aspirations (Diener et al., 1993). As well, mean income levels within a community used to compute relative difference scores is a crude measure of the local socioeconomic context for comparison, which assumes that people uniformly compare themselves to the same mean, despite the fact that people live and work in socioeconomically (and racially) stratified environments that can deviate from this mean (e.g., Reeves, 2017). In other words, the relative income measures derived from objective measures are only indirect assessments of the social comparisons that people actually make.

The second limitation relates to the narrow focus on objective measures of SES to understand the SES and SWB link. Although objective SES measures of one's income level or educational attainment assess key material resources that fulfill important needs, they may not capture the full range of psychological processes underlying one's SES that can affect SWB (e.g., Hout, 2008). This assertion is supported by a recent view in the psychological study of SES, which posited that an individual's SES identity is often shaped by the broader situational or social context that a person is in, giving rise to subjective meaning in one's SES experience and identity (Destin, Rheinschmidt-Same, & Richeson, 2017). Such subjective meaning can impact self-perceptions, self-worth, as well as SWB (Fisher, O'Donnell, & Oyserman, 2017), beyond the objective markers of SES. Hence, a complete understanding of the SES and SWB relationship would also require understanding the role of subjective meaning in one's SES identity, which may be more likely captured by measures of subjective SES.

Objective and Subjective Assessments of SES

SES can be defined both objectively and subjectively (Adler et al., 2000; Kraus et al., 2012). Objective SES defines one's status in terms of the absolute level of material resources that one possesses, commonly indexed by one's income level (e.g., Diener et al., 1993; Howell & Howell, 2008), educational attainment (e.g., Witter, Okun, Stock, & Haring, 1984), or a combination of both indices (e.g., Haring, Stock, & Okun, 1984; Pinquart & Sörensen, 2000). These measures are considered objective because they involve factual reports of life circumstances that can be reported with limited top-down psychological influences such as personality and mood. These measures have been the primary focus of the literature on the SES and SWB relationship.

On the other hand, subjective SES defines status based on one's *perception* of their own socioeconomic position or rank within a society. The two most common measures of subjective SES are the single-item measure of perceived SES category or the single-item MacArthur Scale of Subjective Social Status (SSS), both of which assess relative rank. The perceived SES measure typically asks about one's identification with a social class position in society, such as "lower (working) class," "middle class," or "upper-class." (Jackman, 1979). The MacArthur SSS measure (ladder SES hereafter), depicts individuals at all levels of society within their country using a 10-rung ladder, with the highest rung representing those with the most money, most education and the most respected jobs, and the lowest rung representing those with the least money, least education and the least respected jobs. Individuals are asked to place themselves on the ladder, relative to others in their country. Both the perceived SES and ladder SES measures are subjective because in making those ratings, individuals apply their own understanding about how SES is defined and ranked, based on what is most meaningful or relevant to them within their societal context.

The objective and subjective measures of SES tend to be significantly but not perfectly correlated (Adler & Stewart, 2007; Kraus et al., 2012), with their reported associations in the range of 0.30 to 0.60. Their moderate correlations can be attributed to a few reasons. First, although objective levels of income, educational attainment and occupational prestige are commonly (or even explicitly, in the case of the ladder SES measure) referred to in forming judgments of one's SES, individuals may still differ in the criteria they consider to be most critical or relevant to one's SES (Adler & Stewart, 2007). For some, income may be the strongest determinant of one's socioeconomic rank, whereas for others, it may be educational attainment. Second, the same objective criteria can also be given different qualitative assessments that lead to different judgments of rank (Adler & Stewart, 2007). For instance, individuals with a college degree from an elite institution are likely to place themselves higher on the SES ladder or identify as upper-class than those with a college degree from a less funded school. Third, as individuals often ascribe subjective meaning to their current objective SES that may be shaped by their own situational or the broader social context (Destin et al., 2017), this unique meaning is likely to be captured by subjective SES. In other words, the same objective SES level can take on a different meaning depending on whether a person is moving upward or downward in SES, or where the person lies relative to an ideal self, social norms, or surrounding people. A final reason is that as subjective measures are evaluative, they are susceptible to top-down influences such as transient moods, or personal beliefs and characteristics unrelated to SES. This can cause subjective measures to cohere less with objective indicators that are immune to these influences.

Subjective SES and the Role of Social Comparison

Although it is widely acknowledged that objective SES and subjective SES are related but also distinct constructs (Adler & Stewart, 2007; Kraus et al., 2012), it remains unclear what exactly distinguishes subjective SES from objective SES. Drawing on existing SES research in psychological science, the current research sought to conceptualize subjective SES by formulating a working definition that clearly distinguishes it from objective SES.

A central process that has been theorized to underlie the subjective SES construct is that of social comparison, through which sorting and ranking are often achieved (Kraus et al., 2012). This view has been supported by a growing body of work suggesting that the experience of relative deprivation is largely rooted in social comparisons that individuals frequently and spontaneously make between their own SES and that of others (Becker, Kraus, & Rheinschmidt-Same, 2017; Buunk, Collins, Taylor, VanYperen, & Dakof, 1990; Callen et al., 2011; Kraus, Park, & Tan, 2017). In experimental works that manipulate relative SES, upward and down social comparisons have also been used to shift perceptions of one's subjective rank (e.g., Brown-Iannuzzi, Lundberg, Kay, & Payne, 2015; Callan et al., 2011; Emery & Le, 2014; Jackson, Richman, LaBelle, Lempereur, & Twenge, 2015; Kraus, Horberg, Goetz, & Keltner, 2011; Kraus & Tan, 2015; Piff, Stancato, Côté, Mendoza-Denton, & Keltner, 2012).

Drawing on these existing works, the current research conceptualized subjective SES as a rank-based judgment that is composed of two parts: The first taps into the objective level of material resources a person possesses (i.e., how much do I have?). This reflects the conceptual overlap between objective and subjective SES that gives rise to their moderate associations. The second part involves an evaluative judgment of where those objective resources would place a person in rank within a specific context, which is derived mainly via the social comparison process (i.e., where do my resources place me in relation to others in this context?). Critically, this suggests that the engagement of social comparison in subjective SES judgments is what conceptually distinguishes it from objective SES.

The Relationships Between Subjective SES, Objective SES, and SWB

Based on the proposed conceptualization of subjective SES, some hypotheses about the relationships between subjective SES, objective SES, and SWB can be tested. First, if subjective

SES uniquely captures social comparison processes while objective SES does not, one possible hypothesis is that the subjective SES-SWB associations should be stronger than the objective SES-SWB associations.

Findings from several lines of work align with this first hypothesis. First, as reviewed earlier, evidence in support of the relativity hypothesis (Diener et al., 1993; Easterlin, 1974, 2001; Graham, 2005; Stutzer, 2004) suggests that subjective SES that is rooted in social comparison is likely to share a stronger relationship with SWB than objective SES. As well, from the pioneering works on the SES and health gradient, subjective SES measured by the ladder SES has been shown to predict physical health and self-rated health reliably, even after controlling for objective SES (Adler et al., 2000; Demakakos, Nazroo, Breeze, & Marmot, 2008; Kraus et al., 2013; Operario, Adler, & Williams, 2004; Singh-Manoux, Adler, & Marmot, 2003; Singh-Manoux, Marmot, & Adler, 2005). Critically, the predictive strength of subjective SES was observed to be stronger than that of objective SES on a variety of health-related outcomes, such as heart rate, body fat distribution and stress-induced cortisol responses (Adler et al., 2000; Adler & Stewart, 2007; Cundiff, Kamarck, & Manuck, 2016; Cundiff & Matthews, 2017; Operario et al., 2004). In some of these studies, social comparison elicited by subjective SES has been highlighted as a potential driver of the observed differences in predictive strength.

Emerging work from the study of SES and social cognition is also suggestive. Underlying this line of work is the idea that social class symbols and boundaries are often concrete and visible, signaled through the neighborhoods people live in, the schools that children attend (Bourdieu, 1979; Kraus & Keltner, 2009; Kraus et al., 2013), the clothing worn by others (Kraus & Mendes, 2014), and even through brief speech (Kraus, Torrez, Park, & Ghayebi, 2019). Thus, in contexts where these social class signals may be transmitted rapidly and frequently in everyday social interactions (e.g., societies with high economic inequality), social comparisons of one's SES may be heightened and exacerbate socioeconomic disparities in important life outcomes (Kraus et al., 2017; Pickett & Wilkinson, 2015). In this vein, if subjective SES measures capture the degree of everyday social comparative experiences, subjective SES should drive stronger associations with SWB than would objective SES.

Finally, research on the self has shown that social comparisons can also heighten other comparative processes, such as self-comparisons to important personal standards (McIntyre & Eisenstadt, 2011). Because self-comparisons that evoke discrepancies between one's ideal and ought self can induce negative feelings about the self (Higgins, 1987; Michalos, 1985), heightened self-comparisons could also impact one's SWB (Diener, Lucas, & Oishi, 2002). In this vein, subjective SES assessments that capture social comparisons may activate, along with it, a constellation of perception that one is falling short of important or relevant standards. This may make one's SES "loom even larger" and more consequential on SWB than what is captured by objective SES measures.

Subjective SES-SWB Association and Common Method Variance

Although the above analysis suggests that social comparison processes captured by subjective SES measures would predict a stronger subjective SES-SWB association than objective SES-SWB association, another equally plausible explanation is that of common method variance. Common method variance refers to the association between two constructs that is because of measurement similarity rather than because of the conceptual relationship between the constructs (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). As noted earlier, subjective SES measures are susceptible to top-down influences such as transient moods, personality, or response bias, all of which may have little to do with actual perceptions of rank. Furthermore, SWB measures are also subjective and share similar susceptibility to top-down influences as subjective SES. From this perspective, the subjective SES-SWB association may also be inflated by shared top-down influences on both subjective measures.

Prior work has addressed this issue to some degree by accounting for some of the possible top-down influences methodologically. Accounting for response bias, one study found unique influences of the ladder SES on physiological indicators of health and mortality, such as Body Mass Index (BMI), heart rate, and cortisol response, beyond influences on self-rated health (e.g., Adler et al., 2000). A longitudinal study also found that the ladder SES significantly predicted self-rated health 3 years later, controlling for self-rated health at baseline to account for shared variances in subjective ratings (Singh-Manoux et al., 2005). Again, this suggested that the ladder SES influences were not simply attributable to response bias. With respect to mood influences, studies have found that subjective SES influences on self-rated health persisted after controlling for negative affect (Adler et al., 2000; Operario et al., 2004). In one study that sought to account for mood influences experimentally, subjective SES ratings did not shift with mood manipulations (Kraus et al., 2013). Nonetheless, similar investigations have not been conducted with other possible top-down influences.

Given the plausibility that the subjective SES-SWB association may reflect common method variance, its contribution to the subjective SES-SWB association was also examined in the current investigation. Specifically, the subjective SES-SWB association was also examined controlling for their associations with other subjective measures that may capture top-down influences or response bias.

The Indirect Influence of Objective SES on SWB via Subjective SES

The conceptual overlap with objective SES highlighted in the current subjective SES conceptualization also suggests that subjective SES rank judgments may draw on knowledge about the objective level of material resources that one currently possesses. This predicts a possible pathway where objective SES may indirectly influence SWB by partially informing subjective SES judgments. To examine this pathway, a second hypothesis tested in the current investigation was that subjective SES judgments would partially mediate the objective SES-SWB relationship.

The idea that subjective SES judgments draw on one's objective SES has been used to explain the moderate association between objective SES and the subjective ladder SES measure (Adler & Stewart, 2007). This is intuitive given that the instructions in the ladder SES measure explicitly asks one to consider levels of income, education and occupation when making the rank judgment. What is less clear is whether in subjective SES measures that have less explicit instructions, such as in the perceived SES measure, individuals would also draw on objective SES in the same way. Therefore, in testing this second hypothesis, the mediating role of the ladder SES and perceived SES in the objective SES-SWB relationship were examined separately.

Moderators of the SES and SWB Associations

To provide further tests of the role of social comparison in explaining the subjective SES-SWB link, the current research also examined if the SES-SWB associations would vary as a function of moderators linked to the social comparison process. In this regard, four moderators were examined—the wealth of countries, cultural orientation, income inequality, and population density. Although past research indicates that social comparisons are often located in micro interactions between individuals (e.g., Buunk et al., 1990; Kraus et al., 2013; Norton, 2013), these macro variables were regarded as proxies that reflect how much social comparison is prioritized or salient within a context. The general prediction was that the subjective SES-SWB association should be stronger in contexts where social comparison is prioritized or more salient. To explore other comparative processes, such as self or past comparisons, social mobility as a moderator was also examined.

Wealth of Countries

The wealth of countries has been linked to whether the fulfillment of subsistence needs or comparison needs is a priority for SWB. As highlighted earlier, Need Theory posited that absolute material resources that are essential for fulfilling basic subsistence needs should have a stronger impact on the SWB of those in poorer countries than in wealthier countries (Diener & Biswas-Diener, 2002; Diener & Lucas, 2000; Møller & Schlemmer, 1983; Veenhoven, 1991). From this perspective, we predicted that in the current analysis, the objective SES-SWB associations should increase as the wealth of countries decreases. In contrast, the relativity hypothesis posited that individuals in wealthier countries are more concerned about whether they are doing better than others and, therefore, engage in more social comparisons that impact their SWB (Easterlin, 1974, 1995, 2001). Although the positive relationships between log income and SWB found in past research (e.g., Diener et al., 2013; Easterlin & Sawangfa, 2010) suggest that additional objective resources have a weaker impact on SWB at higher income levels, it is unclear if these patterns also reflect increasing social comparison needs at higher income levels. If indeed social comparison is more important for SWB at higher income levels, we predicted that in the current analysis, the subjective SES-SWB associations should increase as the wealth of countries increases.

Cultural Orientation

Compared with individualists, collectivists tend to refer to others within their group when defining the self or judging their personal outcomes (Baldwin & Mussweiler, 2018; Markus & Kitayama, 2010), and are also more sensitive to upward and downward social comparisons (Kemmelmeier & Oyserman, 2001). These suggest that social comparison may be more salient in collectivistic than in individualistic cultures, leading to the possible prediction that the subjective SES-SWB associations in the current analysis should increase with samples characterized by stronger collectivism. On the other hand, the objective SES-SWB associations may not vary with the cultural orientation of the samples.

However, an alternate view is that in collectivistic cultures, subjective SES is seen as nonnormative as it stems from an individual's perception of SES, while objective SES is considered to be a shared public benchmark of SES that is more normative (Leung & Cohen, 2011; Wirtz & Scollon, 2012). From this perspective, objectively defined SES may be more important for collectivists' SWB than subjectively perceived SES (Curhan et al., 2014). Supporting this view, a cross-cultural study of United States and Japanese participants revealed that objective SES showed a stronger link to the SWB of Japanese compared with the SWB of U.S. participants, whereas subjective SES showed a stronger link to the SWB of U.S. participants than to the SWB Japanese participants (Curhan et al., 2014). This perspective suggests an alternative prediction that as samples increase in levels of collectivism, the objective SES-SWB associations should increase, while the subjective SES-SWB associations should decrease. We examined both sets of competing predictions in the current analysis.

Income Inequality

Greater income inequality has been linked to poorer health and well-being (Oishi, Kesebir, & Diener, 2011; Pickett & Wilkinson, 2015). One explanation is that inequality increases the salience of negative social comparisons that motivate poor decisions and worsen life outcomes (Cheung & Lucas, 2016; Kondo, Subramanian, Kawachi, Takeda, & Yamagata, 2008; Payne, Brown-Iannuzzi, & Hannay, 2017). Consistent with this notion, in one study that examined the associations between relative income and SWB from 2,425 counties in the United States, the relative income and SWB associations in counties with higher income inequality were found to be about 10 times stronger than in counties with lower income inequality (Cheung & Lucas, 2016). If negative social comparisons are indeed heightened under high income inequality, in the same vein, we predicted that in the subjective SES-SWB associations would increase as income inequality in the samples increases, while a similar but weaker pattern may be observed with the objective SES-SWB associations.

Population Density

Higher population density has also been linked to lower SWB (Helliwell, Shiplett, & Barrington-Leigh, 2019; Winters & Li, 2017), because of higher levels of environmental stress from pollution and congestion, and higher levels of psychological stress from greater competition for resources in more densely populated areas (Berry & Okulicz-Kozaryn, 2011; Lederbogen et al., 2011). In particular, as competition for limited resources increases under higher population density, the ability to attain resources is likely to become more important for one's SWB. Therefore, we predicted that both the objective SES-SWB associations and subjective SES-SWB associations should increase as population density increases. Furthermore, as competitive attitudes and behaviors have been linked to heightened social comparison (Garcia, Tor, & Schiff, 2013), we also predicted that the moderating effect of population density may be stronger for the subjective SES-SWB associations than for the objective SES-SWB associations.

Social Mobility

Social mobility broadly refers to the likelihood of moving up or down in one's SES in society (Narayan et al., 2018). Absolute social mobility, which captures upward mobility, has been linked to higher SWB (Chan, 2018; Clark & D'Angelo, 2010; Nikolaev & Burns, 2014). One explanation is that high upward mobility highlights how much one has improved from their parents' SES, and this past comparison increases the impact of one's current SES on SWB (Clark & D'Angelo, 2010; Nikolaev & Burns, 2014). Another explanation is that upward mobility worsens SWB among lower SES individuals by increasing status uncertainty–the disconnect between their identity shaped by their low SES backgrounds and the new status identity they would have to navigate when moving up, (Destin & Debrosse, 2017). Both of these explanations suggest that high upward mobility is likely to exacerbate current SES differences in SWB. Therefore, we predicted that both objective SES-SWB and subjective SES-SWB associations would increase with samples characterized by higher absolute or upward social mobility.

Relative mobility, on the other hand, is indexed by how much a person's educational attainment is linked to that of their parents. Importantly, while a low association between a person's education attainment and that of his or her parents reflects high relative mobility, it is unclear if the low association is driven primarily by upward mobility, downward mobility or both. Given this ambiguity, we reasoned that current SES would be weakly linked to SWB under high relative mobility. In contrast, as low relative mobility is indexed by a high association between one's current SES and that of their parents, it suggests a relatively stable current SES, which should be more strongly linked to SWB. Therefore, we predicted that both the objective SES-SWB and subjective SES-SWB associations should increase with lower relative social mobility. Finally, as both types of social mobility have not been theoretically or empirically linked to social comparisons, we did not expect the objective and subjective SES-SWB links to differ in how much they would vary with social mobility.

The Present Research

The current research had several goals. The first goal was to extend past reviews of the SES-SWB relationship by examining the SWB associations with both objective SES and subjective SES. To this end, we conducted a meta-analytic review of the relationships between objective SES, subjective SES and SWB, with three *r* effect sizes estimated: the objective SES-subjective SES *r*, the objective SES-SWB *r*, and the subjective SES-SWB *r*. The second goal was to test two key hypotheses based on our proposed conceptualization of subjective SES. The first hypothesis was that the subjective SES-SWB *r* effect size should be larger than objective SES-SWB *r* effect size, based on the social comparison process theorized to underlie subjective SES. In our meta-analytic review, we also included the associations of subjective SES and SWB with other variables that may be influenced by positive response bias (i.e., positive affect, optimism, and self-esteem), wherever available. This enabled us to examine the influence of common method variance, by comparing the subjective SES-SWB *r* effect sizes with and without controlling for sources of positive response biases. The second hypothesis was that if subjective SES judgments are in part informed by objective SES assessments, objective SES may exert an indirect influence on SWB with subjective SES as a mediator. As a final goal, we sought to further investigate the role of social comparison and other comparative processes by examining if the SES-SWB associations may vary with moderators linked to these processes.

The current meta-analysis of the SES and SWB associations focused on studies that examined life satisfaction and happiness—the global cognitive component of SWB. This choice was guided by past research finding that the cognitive evaluation of SWB often elicits a focus on the quality of one's material circumstances (Howell & Howell, 2008; Kahneman, Krueger, Schkade, Schwarz, & Stone, 2004). For instance, income is often more consistently associated with the cognitive evaluations of SWB in general (Diener et al., 2013), while the affective aspect of SWB relates more to transient emotions with less stable associations with income (Lee, Kim, & Shin, 1982). These studies suggest that the overall relationship between SES and SWB may be more reliably captured by the cognitive component of SWB.

Method

Review and Inclusion Criteria

A literature search was conducted on *PsycINFO*, *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 July 2018. Additionally, manual searches were conducted from *Social Indicators Research*, *Journal of Happiness Studies*, and the *MacArthur Research Network on SES & Health*. These searches were also supplemented by examining the reference sections of past meta-analyses and review papers on the topic of subjective well-being. Finally, requests for unpublished, dissertation, underreview, and in press data were sent to the e-mail list of the Society for Personality and Social Psychology and individual researchers. Altogether, the search yielded 1072 potentially eligible records. These articles were then screened for inclusion in the current meta-analysis based on the following inclusion criteria:

1. Studies involving objective SES were included as long as they reported using any standard objective measures, that is, income, education and occupation. Studies were also included if they stated that demographic information was collected, without any specific reference to the type of SES measure available.

2. Studies involving subjective SES were included if they were assessed using the MacArthur SSS scale, self-reports of one's own perceived SES as lower-, middle-, or upper-class, or comparisons of one's material resources relative to any comparison target (e.g., local community, coworkers, and 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 SES and SWB 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 209 authors contacted, 55 of them provided the requested data, 14 indicated that they were unable to provide the data because of expired access to databases or data sets lost over the years. The remaining authors did not respond to repeated requests.

Based on a further examination of the potentially eligible reports, 503 reports met inclusion criteria 1 to 3. Of these articles, 357 studies (23% unpublished) met all inclusion criteria and were used in this meta-analysis, which provided 589 independent samples. Figure 1 shows the flow diagram of information on the search procedure. These samples included a total N of 2,352,095 (M = 4456, SD = 76,223). The age range of the samples was 12–108 years (M = 43.13, SD = 9.58). Samples that reported gender proportions had an average of 55.6% women (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. The percentage of samples by region and country included in this meta-analysis are presented in Table 1.

Coding for General Study Characteristics

The following general study characteristics were coded: (a) sample cohort year, (b) publication source (journal article, unpublished data, dissertation, and conference paper), (c) country where the study was conducted, (d) sampling technique (nationally representative, convenient sample, and stratified random sampling), (e) type of objective SES assessment (income, education, and occupation), (f) type of subjective SES assessment (MacArthur SSS Scale, perceived SES), (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. For the education assessment, the composition of educational attainment (less than high school, completed high school, and 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 descriptive statistics provided in the articles, or authors who responded to e-mail requests.

Coding for Moderators

The following moderators were coded: (a) wealth of country, (b) cultural orientation, (c) level of income inequality of the country,

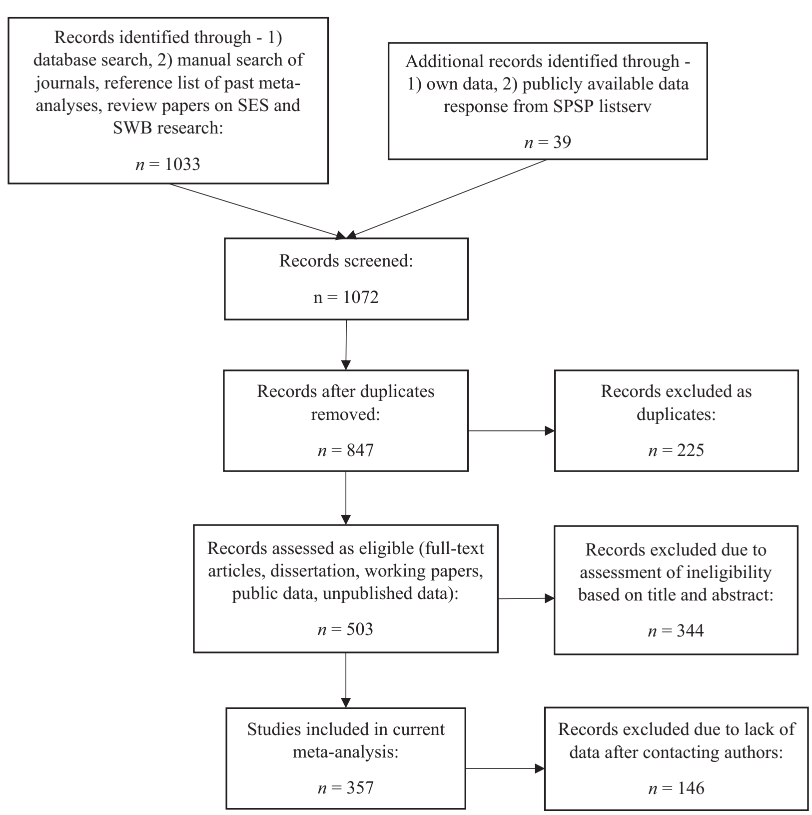


Figure 1. PRISMA flow diagram of information on the search procedure.

Table 1
Effect Sizes, Sample Sizes, and Moderator Codes for Each Sample in the Meta-Analysis

Study	Sample	N	Culture	GNI	GINI	90/10 ratio	90/50 ratio	Population density	Absolute mobility	Relative mobility	Objective-subjective SES	Income-SWB	Education-SWB	Objective SES-SWB	Ladder-SWB	Perceived SES-SWB	Subjective SES-SWB
Abbott & Sapsford (2006)	Armenia	2000		2700	35.4			107.15				0.29	0.18	0.23			
Abbott & Sapsford (2006)	Belarus	2000		6460	30.6			48.95				0.28	0.13	0.20			
Abbott & Sapsford (2006)	Georgia	2022		3080	39.6			70.23				0.35	0.16	0.25			
Abbott & Sapsford (2006)	Kazakhstan	2000						5.50				0.37	0.18	0.27			
Abbott & Sapsford (2006)	Kyrgyz Republic	2000		1690	30.2			25.78				0.29	0.07	0.18			
Abbott & Sapsford (2006)	Moldova	2000		2590	38			126.46				0.36	0.15	0.25			
Aboalshamat et al. (2015)		422	25	51250				13.56				0.11		0.11			
Abbott & Sapsford (2006)	Russia	4006	39	7260	36.9			8.91				0.30	0.13	0.22			
Abbott & Sapsford (2006)	Ukraine	2500	25	4230				84.03				0.35	0.22	0.28			
Addai et al. (2014)		1534	15	2480				100.92	0.47	0.59	0.39		0.17	0.17	0.30	0.18	0.24
Adesanya et al. (2017)	Ghana (WVS Wave 6)	1552	15	3480	42.4			114.25	0.47	0.59	0.27		0.12	0.12	0.27	0.20	0.24
Adesanya et al. (2017)	Nigeria (WVS Wave 6)	1759	30	5130				183.61	0.56	0.59	0.39		0.17	0.17	0.27	0.19	0.23
Adesanya et al. (2017)	Rwanda (WVS Wave 6)	1527		1570				427.63	0.39	0.70	0.38		0.10	0.10	0.23	0.13	0.18
Adesanya et al. (2017)	South Africa (WVS Wave 6)	3491	65	12480				44.26	0.78	0.38	0.29		0.17	0.17	0.37	0.29	0.33
Adesanya et al. (2017)	Zimbabwe (WVS Wave 6)	1499		2210				33.90			0.33		0.15	0.15	0.33	0.23	0.28
Ali (2006)		300	91					32.26	0.51	0.42		0.11		0.11			
Amit & Litwin (2010)		930	54	24600				320.25				0.12	0.19	0.16			
Anderson et al. (2012)	Study 1	88	91														
Anderson et al. (2012)	Study 2	316	91								0.26	0.18	0.06	0.12	0.34		0.34
Anderson et al. (2012)	Study 4 (Time 1)	156	91														
Anderson et al. (2012)	Study 4 (Time 2)	116	91														
Ariyabuddhiphongs & Jaiwong (2010)		400	20														
Baldassare et al. (1984)		202	91					24.05	0.51	0.42			0.18	0.18			
Ball & Chernova (2008)	Albania (WVS Wave 3)	985	20	3110				114.18	0.73	0.44	0.38		0.24	0.24	0.44	0.41	0.42
Ball & Chernova (2008)	Argentina (WVS Wave 3)	1075	46	10040	48.9			12.73	0.60	0.58	0.47		0.07	0.07	0.10	0.10	0.10
Ball & Chernova (2008)	Armenia (WVS Wave 3)	1989		1960				110.05	0.51	0.33	0.09		0.06	0.06	0.18	0.34	0.26
Ball & Chernova (2008)	Australia (WVS Wave 3)	2008	90	20170	32.6		1.94	2.35	0.66	0.25	0.34		0.01	0.01	0.10	0.10	0.10
Ball & Chernova (2008)	Azerbaijan (WVS Wave 3)	1963		2730				94.19	0.35	0.14	0.16		0.00	0.00	0.17	0.21	0.19
Ball & Chernova (2008)	Bangladesh (WVS Wave 3)	1497	20	1160				903.82			0.46		0.18	0.18	0.24	0.26	0.25
Ball & Chernova (2008)	Belarus (WVS Wave 3)	1969		4190				50.09	0.60	0.23	0.27		0.14	0.14	0.20	0.27	0.23
Ball & Chernova (2008)	Bosnia (WVS Wave 3)	793		2180				73.52	0.63	0.59	0.34		0.11	0.11	0.22	0.21	0.22
Ball & Chernova (2008)	Brazil (WVS Wave 3)	1139	38	8320	59.8			20.01	0.73	0.66	0.28		−0.02	−0.02	0.07	0.14	0.10
Ball & Chernova (2008)	Bulgaria (WVS Wave 3)	1057	30	5520				75.13	0.75	0.53	0.49		0.26	0.26	0.33	0.34	0.33
Ball & Chernova (2008)	Chile (WVS Wave 3)	934	23	7750	54.9			19.62	0.70	0.60	0.40		0.06	0.06	0.23	0.18	0.21
Ball & Chernova (2008)	China (WVS Wave 3)	1495	20	1840				128.34	0.66	0.52	0.09		0.09	0.09	0.33	0.31	0.32
Ball & Chernova (2008)	Colombia (WVS Wave 3)	2895	13	6620				34.00	0.66	0.82	0.41		0.01	0.01	0.06	0.03	0.05
Ball & Chernova (2008)	Colombia (WVS Wave 3)	2988	13	6650				34.58	0.66	0.82	0.45		0.05	0.05	0.07	0.07	0.07
Ball & Chernova (2008)	Croatia (WVS Wave 3)	1185	33	8650				81.41	0.74	0.51					0.27	0.24	0.25
Ball & Chernova (2008)	Czech Republic (WVS Wave 3)	938	58	14710				133.23	0.21	0.51	0.41		0.18	0.18	0.22	0.27	0.24
Ball & Chernova (2008)	Dominican Republic (WVS Wave 3)	404	30	4910	47.4			164.62			0.32		0.03	0.03	0.12	0.12	0.12
Ball & Chernova (2008)	El Salvador (WVS Wave 3)	1227	19	4240	52.2			282.09			0.57		0.14	0.14	0.19	0.13	0.16
Ball & Chernova (2008)	Estonia (WVS Wave 3)	1020	60					33.40	0.79	0.27	0.34		0.16	0.16	0.32	0.35	0.33
Ball & Chernova (2008)	Finland (WVS Wave 3)	981	63	19610		2.7	1.60	16.82	0.82	0.35	0.32		0.08	0.08	0.16	0.20	0.18
Ball & Chernova (2008)	Georgia (WVS Wave 3)	1997		1950	37.1			78.58	0.70	0.37	0.11		0.04	0.04	0.23	0.25	0.24
Ball & Chernova (2008)	Germany (WVS Wave 3)	2000	67	24570				235.02	0.37	0.37	0.18		0.07	0.07	0.03	0.22	0.12
Ball & Chernova (2008)	Hungary (WVS Wave 3)	634	80	9880				114.33	0.55	0.46	0.51		0.18	0.18		0.32	0.32
Ball & Chernova (2008)	India (WVS Wave 3)	1906	48	1600				324.21	0.45	1.07	0.34		0.22	0.22	0.12	0.25	0.19
Ball & Chernova (2008)	Japan (WVS Wave 3)	837	46	23610				344.05	0.86	0.31					0.20	0.31	0.25
Ball & Chernova (2008)	Latvia (WVS Wave 3)	1190	70	5830	31.6			39.51	0.75	0.14	0.27		0.15	0.15	0.25	0.28	0.27
Ball & Chernova (2008)	Lithuania (WVS Wave 3)	996	60	6940				57.04	0.79	0.18	0.35		0.18	0.18	0.24	0.35	0.30
Ball & Chernova (2008)	Macedonia (WVS Wave 3)	979		5360				79.12	0.62	0.65	0.34		0.05	0.05	0.15	0.21	0.18
Ball & Chernova (2008)	Mexico (WVS Wave 3)	1477	30	8770	48.2			47.92	0.73	0.64	0.43		0.08	0.08	0.19	0.17	0.18
Ball & Chernova (2008)	Moldova (WVS Wave 3)	979		2290				127.50	0.86	0.24	0.27		0.19	0.19	0.19	0.27	0.23
Ball & Chernova (2008)	Montenegro-Yugoslavia (WVS Wave 3)	229						45.43	0.62	0.56	0.37		0.09	0.09	0.25	0.27	0.26
Ball & Chernova (2008)	New Zealand (WVS Wave 3)	1067	79	18460				14.49	0.56	0.19	0.33		0.02	0.02	0.15	0.17	0.16
Ball & Chernova (2008)	Nigeria (WVS Wave 3)	1821	30	2080				118.52	0.51	0.38	0.52		0.12	0.12	0.22	0.19	0.20

(*table continues*)

Table 1 (*continued*)

Study	Sample	N	Culture	GNI	GINI	90/10 ratio	90/50 ratio	Population density	Absolute mobility	Relative mobility	Objective-subjective SES	Income-SWB	Education-SWB	Objective SES-SWB	Ladder-SWB	Perceived SES-SWB	Subjective SES-SWB
Ball & Chernova (2008)	Norway (WVS Wave 3)	1037	69	26490				12.00	0.66	0.38	0.32		0.10	0.10	0.18	0.13	0.16
Ball & Chernova (2008)	Pakistan (WVS Wave 3)	733	14	2510				170.01	0.26	0.98	0.56		0.16	0.16	0.25	0.27	0.26
Ball & Chernova (2008)	Peru (WVS Wave 3)	1189	16	4500				19.34	0.73	0.70	0.36		0.11	0.11	0.08	0.14	0.11
Ball & Chernova (2008)	Philippines (WVS Wave 3)	1199	32	3180				239.47	0.61	0.33	0.34		0.12	0.12		0.15	0.15
Ball & Chernova (2008)	Poland (WVS Wave 3)	1088	60	8860				126.19	0.80	0.38	0.41		0.18	0.18	0.33	0.29	0.31
Ball & Chernova (2008)	Puerto Rico (WVS Wave 3)	1145	27	12720				415.23			0.30		0.03	0.03	0.09	0.10	0.10
Ball & Chernova (2008)	Romania (WVS Wave 3)	1226	30	5480				98.03	0.79	0.64	0.44		0.23	0.23	0.26	0.27	0.27
Ball & Chernova (2008)	Russia (WVS Wave 3)	1906	39	5570				9.06	0.80	0.31	0.35		0.15	0.15	0.28	0.24	0.26
Ball & Chernova (2008)	Serbia-Yugoslavia (WVS Wave 3)	1218	25					87.10	0.66	0.50	0.41		0.09	0.09	0.16	0.21	0.19
Ball & Chernova (2008)	Slovak Republic (WVS Wave 3)	1058	52	10620				112.07	0.50	0.38	0.42		0.14	0.14	0.20	0.27	0.23
Ball & Chernova (2008)	Slovenia (WVS Wave 3)	998	27	13620				98.80	0.52	0.43	0.50		0.22	0.22		0.25	0.25
Ball & Chernova (2008)	South Africa (WVS Wave 3)	2925	65	6850	60.7			34.82	0.50	0.74	0.53		0.27	0.27	0.31	0.38	0.35
Ball & Chernova (2008)	South Korea (WVS Wave 3)	1246	18	14370				471.95			0.42		0.08	0.08	0.06	0.16	0.11
Ball & Chernova (2008)	Spain (WVS Wave 3)	1200	51	16150				79.54	0.56	0.79	0.45		0.09	0.09	0.12	0.11	0.11
Ball & Chernova (2008)	Srpska (WVS Wave 3)	399									0.44		0.13	0.13	0.29	0.23	0.26
Ball & Chernova (2008)	Sweden (WVS Wave 3)	949	71	23270				21.55	0.87	0.27	0.39		0.06	0.06	0.19	0.13	0.16
Ball & Chernova (2008)	Switzerland (WVS Wave 3)	1152	68	31360				178.91	0.60	0.47	0.34		0.03	0.03	0.14	0.14	0.14
Ball & Chernova (2008)	Taiwan (WVS Wave 3)	720	17						0.81	0.60	0.39		0.13	0.13	0.23	0.23	0.23
Ball & Chernova (2008)	Turkey (WVS Wave 3)	1864	37	7890				77.21	0.50	0.62	0.37		−0.04	−0.04	0.07	0.12	0.10
Ball & Chernova (2008)	UK (WVS Wave 3)	941	89	23540				241.75	0.64	0.42	0.47		−0.01	−0.01	0.16	0.14	0.15
Ball & Chernova (2008)	Ukraine (WVS Wave 3)	2562	25	3380	35.2			88.13	0.84	0.22	0.26		0.15	0.15	0.21	0.32	0.26
Ball & Chernova (2008)	Uruguay (WVS Wave 3)	984	36	8880				18.55			0.46		0.07	0.07	0.20	0.11	0.16
Ball & Chernova (2008)	USA (WVS Wave 3)	1474	91	28450				29.07	0.64	0.47	0.34		0.06	0.06	0.15	0.15	0.15
Ball & Chernova (2008)	Venezuela (WVS Wave 3)	1166	12	11030				25.38			0.33		0.07	0.07	0.10	0.10	0.10
Bedin & Sarriera (2015)	Brazil (Time 1)	487	38													0.24	0.24
Bedin & Sarriera (2015)	Brazil (Time 2)	487	38													0.31	0.31
Bennett et al. (2018)		428	91	31500	40.8			29.77			0.19	0.11	0.14	0.13	0.13		0.13
Benyamini et al. (2004)		830	91										0.06	0.06			
Binder & Coad (2011)		11591	89	34590	34.6	4.6	2.10	251.51	0.64	0.42		0.09	0.01	0.05			
Biswas-Diener & Diener (2001)		83	48									0.45		0.45			
Boyce et al. (2010)		86679										0.05		0.05			
Boyce et al. (2013)		8625	90	31360				2.66	0.65	0.24		0.06		0.06			
Bratten (2001)		884	91	25090				28.01				−0.08		−0.08			
Brockmann et al. (2008)		991	20	3180				135.47	0.61	0.46	0.24		0.00	0.00	0.19	0.34	0.26
Camfield et al. (2010)		275	20	1710				1052.37					0.12	0.12			
Camfield et al. (2010)		330	20	9200	42.5			127.22					0.14	0.14			
Chindarkar (2014)		80271											0.08	0.08			
Corneo & Gruner (2002)	West Germany (ISSP 1991)	1196	67	21140	29.2			229.18	0.34	0.45	0.35	0.22	0.05	0.13	0.12		0.12
Corneo & Gruner (2002)	East Germany (ISSP 1991)	1226									0.27	0.16	0.00	0.08	0.06		0.06
Corneo & Gruner (2002)	USA (ISSP 1991)	1233	91	24100	38.2			27.62	0.71	0.37	0.28	0.18	0.07	0.13	0.14		0.14
Corneo & Gruner (2002)	Hungary (ISSP 1991)	928	80					115.43	0.67	0.54	0.41	0.13	0.18	0.16	0.19		0.19
Corneo & Gruner (2002)	Norway (ISSP 1991)	1282	69	18940				11.67	0.69	0.45	0.33	0.06	0.04	0.05	0.04		0.04
Corneo & Gruner (2002)	Poland (ISSP 1991)	908	60	5720				124.87	0.69	0.43		0.23	0.15	0.19			
Corneo & Gruner (2002)	New Zealand (ISSP 1991)	935	79	13590				13.27	0.53	0.26	0.37	0.11	0.01	0.06	0.16		0.16
Corneo & Gruner (2002)	Russia (ISSP 1991)	2518	39	7820				9.07	0.80	0.31		0.05	0.04	0.05			
Corneo & Gruner (2002)	Australia (ISSP 1991)	2135	90	17070				2.25	0.55	0.39	0.31	−0.02	−0.04	−0.03	0.11		0.11
Cornman et al. (2012)		679	17		32.6						0.31	0.16	0.20	0.18	0.30		0.30
Correa-Velez et al. (2010)	Australia (Time 1)	95	90					2.66							0.08		0.08
Correa-Velez et al. (2010)	Australia (Time 2)	76	90					2.69							0.17		0.17
Correa-Velez et al. (2010)	Australia (Time 3)	89	90					2.62							0.07		0.07
Cramm et al. (2010)		1011	65									0.17	0.13	0.15			
Cramm, Møller, & Nieboer (2012)		1020	65					36.55	0.63	0.61		0.17	0.12	0.14			
Curhan et al. (2014)	Japan (MIDJA)	1027	46	32740	32.1			351.34	0.86	0.31			0.16	0.16	0.29		0.29
Curhan et al. (2014)	USA (MIDUS)	1805	91	42060	40.5			31.96	0.71	0.37			0.06	0.06	0.37		0.37
Davis & Wu (2014)	Survey (2005)	1012340	91									0.32	0.16	0.24			
Davis & Wu (2014)	Survey (2006)	100933	91									0.24	0.12	0.18			
Davis & Wu (2014)	Survey (2007)	82826	91									0.24	0.13	0.19			
Davis & Wu (2014)	Survey (2008)	23716	91									0.22	0.13	0.18			
Dorn et al. (2007)	Australia (ISSP 1998)	1075	90	23430				2.44	0.55	0.39	0.32	0.02	−0.07	−0.03		0.04	0.04

Table 1 (*continued*)

Study	Sample	N	Culture	GNI	GINI	90/10 ratio	90/50 ratio	Population density	Absolute mobility	Relative mobility	Objective-subjective SES	Income-SWB	Education-SWB	Objective SES-SWB	Ladder-SWB	Perceived SES-SWB	Subjective SES-SWB
Dorn et al. (2007)	West Germany (ISSP 1998)	1000	67	25220	28.3			235.08	0.37	0.37	0.40	0.07	−0.03	0.02		0.05	0.05
Dorn et al. (2007)	East Germany (ISSP 1998)	801									0.29	0.08	0.03	0.06		0.13	0.13
Dorn et al. (2007)	UK (ISSP 1998)	726	89	23540				241.75	0.54	0.45		0.01	−0.01	0.00			
Dorn et al. (2007)	Northern Ireland (ISSP 1998)	811											−0.02	−0.02			
Dorn et al. (2007)	USA (ISSP 1998)	1150	91	33120				30.12	0.64	0.47	0.33	0.17	0.08	0.12		0.18	0.18
Dorn et al. (2007)	Austria (ISSP 1998)	956	55	26510				96.60	0.39	0.48	0.31	0.09	0.10	0.10		0.09	0.09
Dorn et al. (2007)	Hungary (ISSP 1998)	989	80	9880				114.33	0.67	0.54	0.41	0.20	0.23	0.21		0.18	0.18
Dorn et al. (2007)	Italy (ISSP 1998)	999	76	24810				193.49	0.82	0.60	0.31	0.07	0.12	0.10		0.15	0.15
Dorn et al. (2007)	Ireland (ISSP 1998)	940	70	22480				50.56	0.77	0.38	0.38	0.09	0.08	0.08		0.09	0.09
Dorn et al. (2007)	Netherlands (ISSP 1998)	1573	80	27630				465.26	0.70	0.51		0.09	−0.01	0.04			
Dorn et al. (2007)	Norway (ISSP 1998)	1344	69	27870				12.13	0.66	0.38	0.38	0.02	−0.04	−0.01		−0.02	−0.02
Dorn et al. (2007)	Sweden (ISSP 1998)	1009	71	25330				21.57	0.87	0.27	0.30	0.04	−0.03	0.00		0.07	0.07
Dorn et al. (2007)	Czech Republic (ISSP 1998)	745	58	14710				133.23	0.21	0.51	0.42	0.14	0.04	0.09		0.03	0.03
Dorn et al. (2007)	Slovenia (ISSP 1998)	745	27	16020				98.39	0.52	0.43	0.48	0.08	0.09	0.08		0.09	0.09
Dorn et al. (2007)	Poland (ISSP 1998)	1067	60	9410	32.3			126.23	0.69	0.43	0.36	0.04	0.01	0.02		0.04	0.04
Dorn et al. (2007)	Bulgaria (ISSP 1998)	1023	30	6020				74.63	0.71	0.59	0.46	0.13	0.13	0.13		0.20	0.20
Dorn et al. (2007)	Russia (ISSP 1998)	1377	39	5230	38.1			9.02	0.85	0.21	0.28	0.00	0.02	0.01		0.05	0.05
Dorn et al. (2007)	New Zealand (ISSP 1998)	864	79	18460				14.49	0.53	0.26	0.36	0.02	0.05	0.03		0.08	0.08
Dorn et al. (2007)	Canada (ISSP 1998)	900	80	25430	33.2	4.1	1.90	3.32	0.84	0.24	0.41	0.16	0.04	0.10		0.21	0.21
Dorn et al. (2007)	Philippines (ISSP 1998)	1117	32	3600				250.43	0.61	0.33	0.36	0.09	0.13	0.11		0.11	0.11
Dorn et al. (2007)	Israel (ISSP 1998)	1203	54	21300				275.92	0.79	0.35	0.22	0.13	0.16	0.14		0.31	0.31
Dorn et al. (2007)	Japan (ISSP 1998)	1245	46	25380				346.78	0.86	0.31	0.28	0.04	0.04	0.04		0.11	0.11
Dorn et al. (2007)	Spain (ISSP 1998)	1691	51	18870				80.54	0.76	0.64	0.36	0.13	0.13	0.13		0.09	0.09
Dorn et al. (2007)	Latvia (ISSP 1998)	1130	70	7120				38.75	0.75	0.14	0.40	0.13	0.11	0.12		0.17	0.17
Dorn et al. (2007)	Slovak Republic (ISSP 1998)	1237	52	10620				112.07	0.50	0.38	0.42	0.10	0.11	0.10		0.17	0.17
Dorn et al. (2007)	France (ISSP 1998)	937	71	23660				109.92	0.68	0.47	0.47	0.02	0.02	0.02		0.09	0.09
Dorn et al. (2007)	Cyprus (ISSP 1998)	857		19320				98.34	0.78	0.46	0.45	0.09	0.08	0.09		0.03	0.03
Dorn et al. (2007)	Portugal (ISSP 1998)	1154	27	16600				111.04	0.62	0.75	0.46	0.13	0.13	0.13		0.13	0.13
Dorn et al. (2007)	Chile (ISSP 1998)	1327	23	8790	55.5			20.14	0.70	0.60	0.48	0.20	0.19	0.19		0.22	0.22
Dorn et al. (2007)	Denmark (ISSP 1998)	946						125.01	0.60	0.59	0.38	0.07	0.01	0.04		0.09	0.09
Dorn et al. (2007)	Switzerland (ISSP 1998)	1006	68	34510				179.88	0.60	0.47	0.37	0.05	−0.02	0.01		0.02	0.02
Downing (2012)		224	91	53110				34.31			0.30	0.19	0.05	0.12			0.28
Easterbrook et al. (2016)		61959	89									0.07	−0.05	0.01			
Eichhorn (2012)	Albania (WVS Wave 4)	998	20	4780	31.7			111.35	0.67	0.41	0.39		0.18	0.18	0.31	0.43	0.37
Eichhorn (2012)	Bosnia & Herzegovina (WVS Wave 4)	1169		5200				73.35	0.67	0.41	0.35		0.18	0.18	0.33	0.28	0.30
Eichhorn (2012)	Canada (WVS Wave 4)	1865	80	28590	33.3	4.1	1.90	3.37	0.84	0.24	0.36		0.01	0.01	0.15	0.13	0.14
Eichhorn (2012)	Macedonia (WVS Wave 4)	1052		5980				80.33	0.62	0.65	0.41		0.23	0.23	0.39	0.29	0.34
Eichhorn (2012)	Moldova (WVS Wave 4)	978		2840	35.8			126.16	0.86	0.24	0.32		0.15	0.15	0.33	0.17	0.25
Eichhorn (2012)	Spain (WVS Wave 4)	1203	51	21450				81.30	0.76	0.64	0.33		0.13	0.13	0.11	0.13	0.12
Eichhorn (2012)	Sweden (WVS Wave 4)	973	71	27140				21.59	0.87	0.27	0.35		−0.03	−0.03	0.18	0.12	0.15
Eichhorn (2012)	USA (WVS Wave 4)	1196	91	34720				30.47	0.64	0.47	0.26		0.06	0.06	0.20	0.21	0.21
Eichhorn (2012)	Hungary (WVS Wave 4)	1007	80	19720	27	3.4	1.90	110.71	0.49	0.47	0.46		0.21	0.21	0.35	0.34	0.34
Eichhorn (2012)	Norway (WVS Wave 4)	1025	69	55720	27.1			12.89	0.61	0.49	0.34		0.09	0.09	0.21	0.17	0.19
Eichhorn (2012)	Spain (WVS Wave 4)	1200	51	31810	34.1	4.6	2.00	90.62	0.86	0.50	0.41		0.17	0.17	0.20	0.19	0.19
Eichhorn (2012)	Switzerland (WVS Wave 4)	1241	68	50050	34.3	3.7	1.90	191.09	0.60	0.47	0.32		0.03	0.03	0.15	0.16	0.15
Elgar et al. (2016)		1371									0.30	0.14		0.14	0.43		0.43
Eom (2016)		305	91	58960				35.32	0.47	0.34	0.41	0.12	−0.09	0.02	0.32		0.32
Estrada & Arciniega (2015)		168	91	54340	41			34.55	0.47	0.34					0.22		0.22
Faas (2013)		1530	91	46940				33.54			0.08	0.12	0.01	0.07	0.28		0.28
Fernandes et al. (2013)	Portugal (Children)	1246	27	26260	36.3	4.5	2.10	115.27				0.06	0.06	0.06			
Fernandes et al. (2013)	Portugal (Parents)	1246	27	26260	36.3	4.5	2.10	115.27				0.13	0.12	0.12			
Flouri (2004)	UK (Time 1)	2203	89	26360				243.43	0.64	0.42			0.07	0.07			
Flouri (2004)	UK (Time 2)	2168	89	27710				244.37	0.64	0.42			0.08	0.08			
Fors Connolly & Johansson Sevä (2018)	Sweden	1260	71									0.22	0.03	0.13			
Fors Connolly & Johansson Sevä (2018)	USA	1260	91									0.37	0.05	0.21			
Francis-sharnowski (2009)		202	91	48290				33.24	0.47	0.34			0.13	0.13			
Gandelman et al. (2012)		1343	36	13240	46.4			19.04			0.40	0.13	0.14	0.14	0.23		0.23

(*table continues*)

Table 1 (*continued*)

Study	Sample	N	Culture	GNI	GINI	90/10 ratio	90/50 ratio	Population density	Absolute mobility	Relative mobility	Objective-subjective SES	Income-SWB	Education-SWB	Objective SES-SWB	Ladder-SWB	Perceived SES-SWB	Subjective SES-SWB
Graham et al. (2004)	Russia (Time 1)	5004	39	5570					0.85	0.21		0.15	0.07	0.11			
Graham et al. (2004)	Russia (Time 2)	5057	39	6650	37.1				0.85	0.21		0.03	0.08	0.06			
Guardiola & Guillen-Royo (2015)		907	51	31760	35.4	4.9	2.00	93.51	0.76	0.64		0.07	0.12	0.09			
Guo (2014)		1203	20	8340				141.80				0.21		0.21			
Ha & Kim (2013)		1602	18	28260				508.01	0.93	0.32	0.47	0.22	0.14	0.18	0.28		0.31
Haase et al. (2008)	Study (1996)	955	67	24090				234.65	0.33	0.40							
Haase et al. (2008)	Study (2005)	600	67	32250	32.3			236.47	0.33	0.40			0.13	0.13			
Hart et al. (2005)	Study (Time 1)	79	91									0.31	0.13	0.22			
Hart et al. (2005)	Study (Time 2)	68	91									0.21	0.11	0.16			
Hayo & Seifert (2003)		5831										0.15	0.06	0.10			
Headey et al. (2014)	German SOEP (Wave 1)	11557	67					223.01	0.34	0.45		0.10	0.07	0.09			
Headey et al. (2014)	German SOEP (Wave2)	10463	67					222.51	0.37	0.37		0.10	0.05	0.08			
Headey et al. (2014)	German SOEP (Wave 3)	10067	67					222.61	0.37	0.37		0.07	0.05	0.06			
Headey et al. (2014)	German SOEP (Wave 4)	9936	67					222.95	0.37	0.37		0.07	0.05	0.06			
Headey et al. (2014)	German SOEP (Wave 5)	9469	67					223.83	0.37	0.37		0.09	0.04	0.06			
Headey et al. (2014)	German SOEP (Wave 6)	9165	67					225.56	0.37	0.37		0.09	0.06	0.07			
Headey et al. (2014)	German SOEP (Wave 26)	19687	67	37870	30.5			234.94	0.35	0.47		0.17	0.13	0.15			
Headey et al. (2014)	German SOEP (Wave 27)	25322	67	39960	30.2			234.61	0.33	0.40		0.19	0.15	0.17			
Headey et al. (2014)	German SOEP (Wave 28)	24815	67	43770	30.5	3.5	1.90	230.31	0.33	0.40		0.19	0.16	0.17			
Headey et al. (2014)	German SOEP (Wave 29)	25344	67	44590		3.5	1.90	230.75	0.33	0.40		0.16	0.15	0.16			
Headey et al. (2014)	German SOEP (Wave 30)	29339	67	46250	31.1	3.6	1.90	231.16	0.33	0.40		0.15	0.12	0.13			
Hout (2016)	GSS (1974)	1354	91					23.35			0.26	0.17	0.06	0.11		0.16	0.16
Hout (2016)	GSS (1975)	1403	91					23.58			0.30	0.14	0.09	0.11		0.16	0.16
Hout (2016)	GSS (1976)	1394	91					23.81			0.24	0.18	0.10	0.14		0.12	0.12
Hout (2016)	GSS (1977)	1397	91					24.05			0.29	0.19	0.12	0.15		0.15	0.15
Hout (2016)	GSS (1978)	1419	91					24.30			0.31	0.15	0.04	0.09		0.12	0.12
Hout (2016)	GSS (1980)	1353	91					24.30			0.25	0.19	0.11	0.15		0.18	0.18
Hout (2016)	GSS (1982)	1677	91					25.29			0.20	0.19	0.10	0.14		0.15	0.15
Hout (2016)	GSS (1983)	1430	91					25.53			0.35	0.15	0.13	0.14		0.11	0.11
Hout (2016)	GSS (1984)	1320	91					25.75	0.71	0.37	0.25	0.20	0.12	0.16		0.13	0.13
Hout (2016)	GSS (1986)	1329	91		37.5			26.22	0.71	0.37	0.31	0.21	0.09	0.15		0.21	0.21
Hout (2016)	GSS (1985)	1419	91					25.98			0.23	0.14	0.07	0.11		0.15	0.15
Hout (2016)	GSS (1987)	1637	91					26.45	0.71	0.37	0.22	0.19	0.06	0.13		0.23	0.23
Hout (2016)	GSS (1988)	1346	91					26.70	0.71	0.37	0.33	0.14	0.07	0.11		0.17	0.17
Hout (2016)	GSS (1989)	1371	91					26.95	0.71	0.37	0.26	0.19	0.06	0.13		0.17	0.17
Hout (2016)	GSS (1990)	1223	91	23640				27.26	0.71	0.37	0.26	0.13	0.09	0.11		0.16	0.16
Hout (2016)	GSS (1991)	1358	91	24100	38.2			27.62	0.71	0.37	0.28	0.20	0.13	0.16		0.20	0.20
Hout (2016)	GSS (1993)	1463	91	25910				28.38	0.71	0.37	0.29	0.20	0.09	0.15		0.17	0.17
Hout (2016)	GSS (1994)	2627	91	27250	40.2			28.73	0.71	0.37	0.27	0.18	0.12	0.15		0.19	0.19
Hout (2016)	GSS (1996)	2544	91	29870				29.41	0.64	0.47	0.28	0.17	0.09	0.13		0.16	0.16
Hout (2016)	GSS (1998)	2481	91	33120				30.12	0.64	0.47	0.25	0.16	0.13	0.15		0.21	0.21
Hout (2016)	GSS (2000)	2421	91	36800	40.4			30.80	0.64	0.47	0.23	0.18	0.14	0.16		0.16	0.16
Hout (2016)	GSS (2002)	1223	91	38430				31.39	0.64	0.47	0.26	0.17	0.09	0.13		0.19	0.19
Hout (2016)	GSS (2004)	1173	91	42060	40.5			31.96	0.64	0.47	0.31	0.16	0.12	0.14		0.15	0.15
Hout (2016)	GSS (2008)	1770	91	48290				33.24	0.56	0.45	0.30	0.16	0.14	0.15		0.21	0.21
Hout (2016)	GSS (2006)	3873	91	47160				32.57	0.64	0.47	0.27	0.17	0.14	0.16		0.21	0.21
Hout (2016)	GSS (2010)	1804	91	48900	40.4			33.82	0.56	0.45	0.28	0.14	0.13	0.13		0.18	0.18
Hout (2016)	GSS (2012)	1752	91	53110				34.31	0.56	0.45	0.28	0.15	0.09	0.12		0.19	0.19
Howell et al. (2006)		307	26	13660				75.18	0.90	0.46		0.21	−0.02	0.10			
Hsu, Zhang, & Kim (2017)	China (WVS Wave 5)	1991	20	6860				140.38	0.61	0.46	0.17		0.12	0.12	0.31	0.28	0.30
Hsu, Zhang, & Kim (2017)	China (WVS Wave 6)	2029	20	12260	39.7			144.58	0.57	0.60	0.24		0.08	0.08	0.19	0.20	0.19
Hunter et al. (2008)		153	89										0.27	0.27			
Inglehart et al. (2014a)	Algeria (WVS Wave 4)	1264		8640				13.38			0.24		0.05	0.05	0.15	0.31	0.23
Inglehart et al. (2014a)	Argentina (WVS Wave 4)	1269	46	11570	49.8			13.33	0.60	0.58	0.43		0.05	0.05	0.13	0.11	0.12
Inglehart et al. (2014a)	Bangladesh (WVS Wave 4)	1459	20	1530				1017.73			0.41		0.18	0.18	0.35	0.28	0.32
Inglehart et al. (2014a)	Chile (WVS Wave 4)	1190	23	9220	52.8			20.63	0.70	0.60	0.51		0.14	0.14	0.17	0.15	0.16
Inglehart et al. (2014a)	Egypt (WVS Wave 4)	2996	25	6240				70.47	0.53	0.87	0.39		0.00	0.00	−0.04	−0.05	−0.05
Inglehart et al. (2014a)	India (WVS Wave 4)	1971	48	2250				361.57	0.42	0.97	0.42		0.19	0.19	0.17	0.29	0.23
Inglehart et al. (2014a)	Indonesia (WVS Wave 4)	983	14	4650	29			118.37	0.35	0.71	0.28		0.12	0.12	0.31	0.17	0.24

Table 1 (*continued*)

Study	Sample	N	Culture	GNI	GINI	90/10 ratio	90/50 ratio	Population density	Absolute mobility	Relative mobility	Objective-subjective SES	Income-SWB	Education-SWB	Objective SES-SWB	Ladder-SWB	Perceived SES-SWB	Subjective SES-SWB
Inglehart et al. (2014a)	Iran (WVS Wave 4)	2403	41	10520				40.29			0.28		0.10	0.10	0.23	0.25	0.24
Inglehart et al. (2014a)	Iraq (WVS Wave 4)	2307	30	9270				60.16	0.59	0.83	0.27		0.01	0.01	0.24	0.22	0.23
Inglehart et al. (2014a)	Israel (WVS Wave 4)	1183	54	23870	38.9			297.55	0.79	0.35	0.31		0.14	0.14	0.24	0.20	0.22
Inglehart et al. (2014a)	Japan (WVS Wave 4)	1273	46	27220				347.99	0.86	0.31	0.23		0.09	0.09	0.20	0.46	0.33
Inglehart et al. (2014a)	Jordan (WVS Wave 4)	1212	30					59.13	0.80	0.42	0.31		0.12	0.12	0.22	0.27	0.25
Inglehart et al. (2014a)	Kyrgyz Republic (WVS Wave 4)	1040		1850	28.7			26.30	0.56	0.21	0.29		−0.04	−0.04	0.11	0.15	0.13
Inglehart et al. (2014a)	Mexico (WVS Wave 4)	1497	30	10850	51.4			50.88	0.73	0.64	0.50		0.01	0.01	0.09	0.07	0.08
Inglehart et al. (2014a)	Montenegro (WVS Wave 4)	1014		7110				45.16	0.62	0.56	0.43		0.20	0.20	0.36	0.41	0.38
Inglehart et al. (2014a)	Morocco (WVS Wave 4)	1143	46	3800				65.26	0.44	0.91	0.40		0.03	0.03	0.26	0.28	0.27
Inglehart et al. (2014a)	Nigeria (WVS Wave 4)	2014	30	2230				134.26	0.51	0.38	0.34		0.14	0.14	0.24	0.21	0.22
Inglehart et al. (2014a)	Pakistan (WVS Wave 4)	1691	14	2710	30.4			189.37	0.33	0.97	0.60		0.27	0.27	0.30	0.25	0.27
Inglehart et al. (2014a)	Peru (WVS Wave 4)	1486	16	5110	51.3			20.94	0.73	0.70	0.36		0.05	0.05	0.17	0.16	0.16
Inglehart et al. (2014a)	Philippines (WVS Wave 4)	1199	32	4090				267.21	0.69	0.25	0.31		0.04	0.04	0.27	0.10	0.19
Inglehart et al. (2014a)	Puerto Rico (WVS Wave 4)	709	27	17020				430.53			0.23		−0.01	−0.01	0.05	0.13	0.09
Inglehart et al. (2014a)	Saudi Arabia (WVS Wave 4)	1494	25	35910				10.45			0.17		0.07	0.07	0.21	0.20	0.20
Inglehart et al. (2014a)	Serbia (WVS Wave 4)	1184	25	6140				85.79	0.66	0.50	0.40		0.17	0.17	0.25	0.33	0.29
Inglehart et al. (2014a)	Singapore (WVS Wave 4)	1512	20	42030				6186.59			0.36		−0.02	−0.02	0.16	0.19	0.18
Inglehart et al. (2014a)	South Africa (WVS Wave 4)	2997	65	7750				37.57	0.63	0.61	0.37		0.16	0.16	0.40	0.33	0.37
Inglehart et al. (2014a)	South Korea (WVS Wave 4)	1173	18	19040				489.67	0.93	0.32	0.23		0.10	0.10	0.27		0.27
Inglehart et al. (2014a)	Tanzania (WVS Wave 4)	1131	25	1280				38.82	0.56	0.50	0.39		0.04	0.04	0.10	0.13	0.11
Inglehart et al. (2014a)	Uganda (WVS Wave 4)	995		860				122.06	0.36	0.64	0.27		0.07	0.07	0.08	0.10	0.09
Inglehart et al. (2014a)	Venezuela (WVS Wave 4)	1198	12	11470				27.43			0.33		0.07	0.07	0.17	0.15	0.16
Inglehart et al. (2014a)	Vietnam (WVS Wave 4)	979	20	2350				259.55	0.82	0.46	0.14		0.12	0.12	0.30	0.13	0.21
Inglehart et al. (2014a)	Zimbabwe (WVS Wave 4)	999		2300				30.82			0.41		0.13	0.13	0.14	0.16	0.15
Inglehart et al. (2014a)	Ethiopia (WVS Wave 4)	1500	20	810				80.67	0.20	0.88	0.38		0.15	0.15	0.43	0.34	0.38
Inglehart et al. (2014a)	Georgia (WVS Wave 4)	1500		6250	38.2			66.74	0.65	0.40	0.19		0.11	0.11	0.44	0.24	0.34
Inglehart et al. (2014a)	Guatemala (WVS Wave 4)	1000	6	5280				119.42	0.39	0.93	0.35		0.04	0.04	0.11		0.11
Inglehart et al. (2014a)	Iran (WVS Wave 4)	2667	41	16550				43.80			0.29		0.05	0.05	0.25	0.25	0.25
Inglehart et al. (2014a)	Burkina Faso (WVS Wave 4)	1518	15	1260				52.09			0.38		0.10	0.10	0.28	0.24	0.26
Inglehart et al. (2014a)	Egypt (WVS Wave 4)	3051						80.00	0.53	0.87	0.36		0.10	0.10	0.37	0.30	0.34
Inglehart et al. (2014a)	Jordan (WVS Wave 4)	1200						70.89	0.80	0.42	0.30		0.02	0.02	0.05	0.20	0.12
Inglehart et al. (2014a)	Mali (WVS Wave 4)	1534		1640				11.19	0.10	0.97	0.29		0.14	0.14	0.35	0.30	0.32
Inglehart et al. (2014a)	Morocco (WVS Wave 4)	1200	46	5490				69.83	0.44	0.91	0.40		0.25	0.25	0.59	0.47	0.53
Inglehart et al. (2014a)	New Zealand (WVS Wave 4)	954	79	23670				15.52	0.56	0.19	0.31		−0.03	−0.03	0.13	0.15	0.14
Inglehart et al. (2014a)	Rwanda (WVS Wave 4)	1507		1120				375.91	0.39	0.70	0.37		0.22	0.22	0.40	0.18	0.29
Inglehart et al. (2014a)	Thailand (WVS Wave 4)	1534	20	11480	39.8			129.54			0.32		0.10	0.10	0.26	0.08	0.17
Inglehart et al. (2014a)	Turkey (WVS Wave 4)	1346	37	14710	38.4			90.41	0.63	0.58	0.37		0.02	0.02	0.02	0.14	0.08
Inglehart et al. (2014a)	Zambia (WVS Wave 4)	1500	35	2350				16.82			0.36		0.18	0.18	0.25	0.20	0.23
Inglehart et al. (2014b)	Algeria (WVS Wave 6)	1165		14010				16.34			0.15		0.04	0.04	0.17	0.20	0.18
Inglehart et al. (2014b)	Argentina (WVS Wave 6)	1019	46	19930	41			15.42	0.60	0.42	0.22		0.01	0.01	0.18	0.17	0.17
Inglehart et al. (2014b)	Armenia (WVS Wave 6)	1094		7270	29.4			101.04	0.34	0.40	0.22		0.14	0.14	0.36	0.25	0.30
Inglehart et al. (2014b)	Australia (WVS Wave 6)	1418	90	41520	32.6	4.4	2.00	2.96	0.65	0.24	0.35		0.07	0.07	0.22	0.20	0.21
Inglehart et al. (2014b)	Azerbaijan (WVS Wave 6)	1002		14680				110.98	0.22	0.24	0.20		0.12	0.12	0.06	0.19	0.13
Inglehart et al. (2014b)	Belarus (WVS Wave 6)	1531		16820	27.2			46.69	0.55	0.21	0.15		0.02	0.02	0.37	0.23	0.30
Inglehart et al. (2014b)	Brazil (WVS Wave 6)	1475	38	16030	51.5			24.26	0.79	0.57	0.30		0.04	0.04	0.08	0.13	0.10
Inglehart et al. (2014b)	Chile (WVS Wave 6)	988	23	20490				23.40	0.78	0.50	0.42		0.15	0.15	0.16	0.13	0.14
Inglehart et al. (2014b)	Colombia (WVS Wave 6)	1496	13	11760	52.7			41.53	0.71	0.68	0.33		0.06	0.06	0.13	0.06	0.09
Inglehart et al. (2014b)	Cyprus (WVS Wave 6)	996		33140	32.6			121.74	0.89	0.38	0.34		0.13	0.13	0.23	0.13	0.18
Inglehart et al. (2014b)	Ecuador (WVS Wave 6)	1202	8	10870	46.9			63.25	0.62	0.65	0.30		0.14	0.14	0.10	0.13	0.11
Inglehart et al. (2014b)	Egypt (WVS Wave 6)	1523	25	9940	29.8			86.82	0.70	0.60	0.36		0.01	0.01	0.16	0.15	0.15
Inglehart et al. (2014b)	Estonia (WVS Wave 6)	1528	60	23310	32.5			31.32	0.63	0.33	0.34		0.19	0.19	0.41	0.32	0.36
Inglehart et al. (2014b)	Georgia (WVS Wave 6)	1200		9180	37.6			65.07	0.65	0.40	0.24		0.15	0.15	0.41	0.32	0.37
Inglehart et al. (2014b)	Germany (WVS Wave 6)	2025	67	46250	31.1	3.6	1.90	231.16	0.35	0.47	0.37		0.14	0.14	0.28	0.29	0.28
Inglehart et al. (2014b)	India (WVS Wave 6)	4010	48	4850	35.7	9.1	3.20	425.73	0.50	0.85	0.34		0.18	0.18	0.26	0.23	0.25
Inglehart et al. (2014b)	Iraq (WVS Wave 6)	1189	30	15970				76.38	0.55	0.68	0.37		0.18	0.18	0.44	0.38	0.41
Inglehart et al. (2014b)	Jordan (WVS Wave 6)	1200	30					100.47	0.80	0.34	0.19		0.08	0.08	0.24	0.17	0.21
Inglehart et al. (2014b)	Kazakhstan (WVS Wave 6)	1500						6.13	0.36	0.32	0.23		0.08	0.08	0.19	0.18	0.19
Inglehart et al. (2014b)	Kuwait (WVS Wave 6)	1125	25	84080				207.12			0.12		0.12	0.12	0.18	0.23	0.20
Inglehart et al. (2014b)	Kyrgyz Republic (WVS Wave 6)	1466		2610	27.8			28.75	0.41	0.25	0.18		0.04	0.04	0.17	0.06	0.11

(*table continues*)

Table 1 (*continued*)

Study	Sample	N	Culture	GNI	GINI	90/10 ratio	90/50 ratio	Population density	Absolute mobility	Relative mobility	Objective-subjective SES	Income-SWB	Education-SWB	Objective SES-SWB	Ladder-SWB	Perceived SES-SWB	Subjective SES-SWB
Inglehart et al. (2014b)	Lebanon (WVS Wave 6)	1185	40	13250				578.16			0.21		0.09	0.09	0.25	0.15	0.20
Inglehart et al. (2014b)	Libya (WVS Wave 6)	2102	38	17110				3.62			0.19		−0.05	−0.05	0.19	0.16	0.17
Inglehart et al. (2014b)	Mexico (WVS Wave 6)	1998	30	16830	45.4	8.1	2.80	60.33	0.77	0.49	0.31		0.04	0.04	0.03	0.08	0.05
Inglehart et al. (2014b)	Morocco (WVS Wave 6)	1172	46	6590				73.45	0.56	0.80	0.46		0.19	0.19	0.27	0.24	0.26
Inglehart et al. (2014b)	Netherlands (WVS Wave 6)	1865	80	48080	27.6	3.2	1.80	496.89	0.70	0.51	0.46		0.03	0.03	0.23	0.17	0.20
Inglehart et al. (2014b)	New Zealand (WVS Wave 6)	762	79	31250		4.2	2.10	16.65	0.56	0.19	0.36		0.00	0.00	0.09	0.22	0.16
Inglehart et al. (2014b)	Pakistan (WVS Wave 6)	1200	14	4450				242.95	0.33	0.93	0.27		0.19	0.19	0.27	0.23	0.25
Inglehart et al. (2014b)	Palestine (WVS Wave 6)	995									0.33		0.18	0.18	0.33	0.31	0.32
Inglehart et al. (2014b)	Peru (WVS Wave 6)	1182	16	10680	44.4			23.05	0.73	0.55	0.34		0.13	0.13	0.15	0.14	0.14
Inglehart et al. (2014b)	Poland (WVS Wave 6)	963	60	22940	32.4	3.9	1.90	124.30	0.54	0.47	0.41		0.09	0.09	0.17	0.12	0.14
Inglehart et al. (2014b)	Qatar (WVS Wave 6)	1059	25	105360				159.89			0.24		0.00	0.00	0.18	0.15	0.16
Inglehart et al. (2014b)	Romania (WVS Wave 6)	1478	30	18600	36.5			87.20	0.73	0.52	0.34		0.19	0.19	0.35	0.30	0.32
Inglehart et al. (2014b)	Russia (WVS Wave 6)	2452	39	23590	39.7	5.9	2.50	8.73	0.79	0.18	0.24		0.08	0.08	0.31	0.22	0.26
Inglehart et al. (2014b)	Slovenia (WVS Wave 6)	1054	27	28410	24.9	3.2	1.60	101.90	0.53	0.51	0.45		0.21	0.21	0.29	0.23	0.26
Inglehart et al. (2014b)	Spain (WVS Wave 6)	1162	51	31510	35.7	5.1	2.10	93.51	0.86	0.50	0.37		0.16	0.16	0.28	0.27	0.27
Inglehart et al. (2014b)	Sweden (WVS Wave 6)	1183	71	44720	27.6			23.03	0.78	0.29	0.24		0.05	0.05	0.20	0.20	0.20
Inglehart et al. (2014b)	Trinidad and Tobago (WVS Wave 6)	997	16	29130				258.90			0.18		0.05	0.05	0.20	0.12	0.16
Inglehart et al. (2014b)	Tunisia (WVS Wave 6)	1197		10540				70.50	0.58	0.68	0.26		0.13	0.13	0.25	0.21	0.23
Inglehart et al. (2014b)	Turkey (WVS Wave 6)	1601	37	20460	40.2	6	2.50	122.06	0.63	0.58	0.27		0.00	0.00	0.19	0.16	0.17
Inglehart et al. (2014b)	Ukraine (WVS Wave 6)	1500	25	8090	24.6			78.90	0.77	0.19	0.32		0.17	0.17	0.35	0.22	0.28
Inglehart et al. (2014b)	Uruguay (WVS Wave 6)	990	36	17380	42.2			19.25			0.25		0.08	0.08	0.22	0.14	0.18
Inglehart et al. (2014b)	USA (WVS Wave 6)	2218	91	50810				34.06	0.56	0.45	0.28		0.01	0.01	0.24	0.20	0.22
Inglehart et al. (2014b)	Uzbekistan (WVS Wave 6)	1493		4650				68.97	0.30	0.12	0.31		−0.01	−0.01	0.19	0.07	0.13
Inglehart et al. (2014b)	Yemen (WVS Wave 6)	983						48.91			0.24		0.08	0.08	0.35	0.31	0.33
Ip & Cheung (2014)		1136	17									0.11	0.00	0.05			
Islam et al. (2009)		576	38	12300	54.9			22.75			0.46	0.19		0.19		0.30	0.30
ISSP Research Group (2012)	Australia (ISSP 2008)	1450	90	35930	35.4		1.99	2.77	0.66	0.25	0.24	0.11	0.08	0.09	0.24		0.24
ISSP Research Group (2012)	Austria (ISSP 2008)	994	55	41660	30.4	3.4	1.80	100.77	0.45	0.51	0.25	0.14	0.09	0.11	0.31		0.31
ISSP Research Group (2012)	Belgium (ISSP 2008)	1103	75	39030	28.4	3.4	1.70	353.70	0.73	0.47	0.20	0.19	0.08	0.14	0.19		0.19
ISSP Research Group (2012)	Chile (ISSP 2008)	1063	23	15220				22.47	0.78	0.50	0.43	0.19	0.19	0.19	0.30		0.30
ISSP Research Group (2012)	Taiwan (ISSP 2008)	1747	17						0.94	0.40		0.06	0.02	0.04			
ISSP Research Group (2012)	Croatia (ISSP 2008)	1128	33	20270				77.01	0.70	0.48	0.30	0.23	0.14	0.19	0.29		0.29
ISSP Research Group (2012)	Cyprus (ISSP 2008)	848		34110	31.7			117.05	0.89	0.38	0.43	0.08	0.12	0.10	0.11		0.11
ISSP Research Group (2012)	Czech Republic (ISSP 2008)	1083	58	26040	26.3	2.9	1.70	134.43	0.21	0.51	0.47	0.21	0.19	0.20	0.35		0.35
ISSP Research Group (2012)	Denmark (ISSP 2008)	1810	74	41740	25.2			129.48	0.69	0.44	0.34	0.11	0.03	0.07	0.12		0.12
ISSP Research Group (2012)	Dominican Republic (ISSP 2008)	1902	30	9860	48.1			195.78			0.39	0.13	0.17	0.15	0.13		0.13
ISSP Research Group (2012)	Finland (ISSP 2008)	918	63	40040	27.8	3.2	1.70	17.48	0.81	0.28	0.26	0.07	0.02	0.05	0.19		0.19
ISSP Research Group (2012)	France (ISSP 2008)	2080	71	35860	33			117.57	0.68	0.47	0.39	0.24	0.18	0.21	0.20		0.20
ISSP Research Group (2012)	Germany (ISSP 2008)	1349	67	38400	31.2	3.5	1.80	235.52	0.37	0.37	0.32	0.22	0.10	0.16	0.26		0.26
ISSP Research Group (2012)	Hungary (ISSP 2008)	803	80	19420	27.5			112.02	0.49	0.47	0.35	0.27	0.21	0.24	0.34		0.34
ISSP Research Group (2012)	Ireland (ISSP 2008)	1837	70	38350	30.9	3.7	1.90	64.90	0.80	0.34	0.27	0.11	0.08	0.09	0.15		0.15
ISSP Research Group (2012)	Italy (ISSP 2008)	1065	76	35080	33.8	4.2	2.00	200.00	0.82	0.60	0.13	0.06	0.21	0.14	0.30		0.30
ISSP Research Group (2012)	Japan (ISSP 2008)	1031	46	35710	32.1	5.2	2.00	351.34	0.86	0.31	0.20	0.18	0.08	0.13	0.24		0.24
ISSP Research Group (2012)	South Korea (ISSP 2008)	1446	18	28650	32.3			505.77	0.93	0.32	0.46	0.26	0.24	0.25	0.31		0.31
ISSP Research Group (2012)	Latvia (ISSP 2008)	731	70	19180	37.2	5.8	2.20	35.01	0.69	0.28	0.31	0.28	0.16	0.22	0.46		0.46
ISSP Research Group (2012)	Mexico (ISSP 2008)	1441	30	14710	44.6			57.01	0.73	0.64	0.27	0.13	0.13	0.13	0.20		0.20
ISSP Research Group (2012)	Netherlands (ISSP 2008)	1808	80	45110	29.3			487.13	0.70	0.51	0.46	0.21	0.10	0.15	0.25		0.25
ISSP Research Group (2012)	New Zealand (ISSP 2008)	912	79	27700				16.18	0.56	0.19	0.28	0.09	0.03	0.06	0.14		0.14
ISSP Research Group (2012)	Norway (ISSP 2008)	921	69	61480	27	3	1.60	13.06	0.61	0.49	0.20	0.05	0.05	0.05	0.22		0.22
ISSP Research Group (2012)	Philippines (ISSP 2008)	1139	32	5980				304.87	0.69	0.25	0.19	0.06	0.08	0.07	0.09		0.09
ISSP Research Group (2012)	Poland (ISSP 2008)	1108	60	17990	33.7	4	1.90	124.47	0.54	0.47	0.30	0.18	0.23	0.20	0.32		0.32
ISSP Research Group (2012)	Portugal (ISSP 2008)	948	27	25590	36.6	4.7	2.30	115.43	0.62	0.75	0.40	0.26	0.27	0.26	0.24		0.24
ISSP Research Group (2012)	Russia (ISSP 2008)	781	39	19600	41.6			8.72	0.79	0.18	0.24	0.28	0.18	0.23	0.35		0.35
ISSP Research Group (2012)	Slovak Republic (ISSP 2008)	901	52	23250	26	3.1	1.80	111.83	0.40	0.31	0.39	0.20	0.15	0.17	0.33		0.33
ISSP Research Group (2012)	Slovenia (ISSP 2008)	974	27	28850	23.7	3	1.60	100.33	0.53	0.51	0.33	0.19	0.23	0.21	0.33		0.33
ISSP Research Group (2012)	South Africa (ISSP 2008)	2682	65	11300	63			41.04	0.63	0.61	0.46	0.22	0.20	0.21	0.35		0.35
ISSP Research Group (2012)	Spain (ISSP 2008)	1641	51	32570	34.2	4.6	2.00	92.13	0.76	0.64	0.45	0.20	0.19	0.19	0.19		0.19
ISSP Research Group (2012)	Sweden (ISSP 2008)	1031	71	43360	28.1			22.47	0.78	0.29	0.19	0.04	0.04	0.04	0.25		0.25
ISSP Research Group (2012)	Switzerland (ISSP 2008)	1209	68	49150	33.8	3.7	1.90	193.53	0.60	0.47	0.42	0.23	0.12	0.17	0.29		0.29

Table 1 (*continued*)

Study	Sample	N	Culture	GNI	GINI	90/10 ratio	90/50 ratio	Population density	Absolute mobility	Relative mobility	Objective-subjective SES	Income-SWB	Education-SWB	Objective SES-SWB	Ladder-SWB	Perceived SES-SWB	Subjective SES-SWB
ISSP Research Group (2012)	Turkey (ISSP 2008)	1450	37	15890	39			91.50	0.59	0.67	0.31	0.15	0.04	0.10	0.25		0.25
ISSP Research Group (2012)	Ukraine (ISSP 2008)	1808	25	8350	26.6			79.85	0.84	0.22	0.32	0.28	0.26	0.27	0.34		0.34
ISSP Research Group (2012)	UK (ISSP 2008)	1684	89	36090	34.1	4.5	2.10	255.48	0.64	0.42		0.13	0.04	0.09			
ISSP Research Group (2012)	USA (ISSP 2008)	1209	91	48290				33.24	0.56	0.45		0.20	0.11	0.15			
ISSP Research Group (2012)	Uruguay (ISSP 2008)	970	36	14320	45.1			19.09			0.37	0.17	0.10	0.13	0.16		0.16
ISSP Research Group (2012)	Venezuela (ISSP 2008)	909	12	17550				31.33				0.07	0.08	0.07			
ISSP Research Group (2012)	UK (ISSP 2008)	1233	89	17250				237.36	0.54	0.45		0.15	0.03	0.09			
ISSP Research Group (2012)	Northern Ireland (ISSP 2008)	745										0.15	0.10	0.12			
ISSP Research Group (2012)	Netherlands (ISSP 2008)	1366	80	20060				446.38	0.69	0.52	0.47	0.10	−0.04	0.03	0.07		0.07
ISSP Research Group (2012)	Italy (ISSP 2008)	861	76	19180				192.98	0.68	0.63	0.40	0.14	0.08	0.11	0.11		0.11
ISSP Research Group (2012)	Ireland (ISSP 2008)	977	70	13420				40.90	0.64	0.49	0.39	0.14	0.08	0.11	0.16		0.16
ISSP Research Group (2012)	Austria (ISSP 2008)	862	55	20570				93.91	0.39	0.48	0.36	0.12	0.09	0.11	0.10		0.10
ISSP Research Group (2012)	Slovenia (ISSP 2008)	1509	27					99.28	0.55	0.48		0.26	0.17	0.21			
ISSP Research Group (2012)	Israel (ISSP 2008)	907	54	15470				228.70	0.79	0.35		0.20	0.07	0.13			
ISSP Research Group (2012)	Philippines (ISSP 2008)	1199	32	2600				212.81	0.61	0.33	0.39		0.11	0.11	0.10		0.10
Johnson & Krueger (2006)		1996	91									0.12	0.06	0.09			
Jones et al. (2003)		129	91										0.26	0.26			
Kasser & Sheldon (2009)		73	91	48280	41.1			32.88	0.56	0.45		0.22		0.22			
Kasser & Sheldon (2009)		134	91	42060	40.5			31.96	0.56	0.45		0.33		0.33			
Kehn (1995)		98	91	27250	40.2			28.73					0.09	0.09			
Keyes et al. (2002)		3032	91									0.09	0.03	0.06			
Kezer & Cemalcilar (2020)		3016	37	25340	42.9	5.7	2.50	102.04	0.75	0.62	0.28	0.23	0.12	0.17	0.25		0.25
Körner et al. (2014)	Study (2007)	488	67	36990	31.3			235.94					0.18	0.18			
Körner et al. (2014)	Study (2008)	386	67	38400	31.2	3.5	1.80	235.52					0.13	0.13			
Kuppens et al. (2015)		419	91								0.29		0.11	0.11		0.23	0.23
Kwate & Goodman (2014)		630	91	48900	40.4			33.82	0.56	0.45		0.19	0.16	0.17	0.38		0.38
Lang & Heckhausen (2001)		480	67	24570				235.02					0.12	0.12			
Lee (2009)		109	25										0.04	0.04			
Levin (2013)		1849	54	28290	42.6			352.29	0.82	0.30			0.13	0.13			
Levin (2014)	Israel (WVS Wave 4)	889	54	26880				337.75	0.82	0.30	0.22	0.26	0.10	0.18	0.18		0.18
Liang & Wang (2014)		10372	20	5050	41			138.87	0.61	0.46	0.18	0.13		0.13		0.34	0.34
Lindfors et al. (2014)	Time 1	1462	71	32050	25.3			21.83	0.71	0.33						0.08	0.08
Lindfors et al. (2014)	Time 2	1382	71	33760	26.1			21.92								0.10	0.10
Lindfors et al. (2014)	Time 3	1373	71	38440	26.4			22.13								0.05	0.05
Lindfors et al. (2014)	Time 4	1266	71	41850	27.1			22.29								0.03	0.03
Lindfors et al. (2014)	Time 5	1142	71	43360	28.1			22.47								0.00	0.00
Lindfors et al. (2014)	Time 6	1064	71	40640	27.3			22.66								0.07	0.07
Lindfors et al. (2014)	Time 7	1024	71	42780	27.7			22.86								0.07	0.07
Luhmann et al. (2011)	German SOEP (Wave 7)	8978	67	19740				227.52	0.37	0.37		0.13		0.13			
Luhmann et al. (2011)	German SOEP (Wave 8)	8868	67	21140	29.2			229.18	0.37	0.37		0.10	−0.05	0.03			
Luhmann et al. (2011)	German SOEP (Wave 9)	12592	67	21860				230.93	0.37	0.37		0.19	−0.02	0.09			
Luhmann et al. (2011)	German SOEP (Wave 10)	12413	67	21940				232.46	0.37	0.37		0.16	0.01	0.09			
Luhmann et al. (2011)	German SOEP (Wave 11)	12628	67	22790	29.2			233.27	0.37	0.37		0.15	0.00	0.08			
Luhmann et al. (2011)	German SOEP (Wave 12)	12969	67	23530	29			233.97	0.37	0.37		0.15	0.03	0.09			
Luhmann et al. (2011)	German SOEP (Wave 13)	12757	67	24090				234.65	0.35	0.47		0.14	0.04	0.09			
Luhmann et al. (2011)	German SOEP (Wave 14)	12537	67	24570				235.02	0.35	0.47		0.16	0.04	0.10			
Luhmann et al. (2011)	German SOEP (Wave 15)	13847	67	25220	28.3			235.08	0.35	0.47		0.17	0.05	0.11			
Luhmann et al. (2011)	German SOEP (Wave 16)	13337	67	26140				235.26	0.35	0.47		0.15	0.06	0.11			
Luhmann et al. (2011)	German SOEP (Wave 17)	23266	67	27120	28.8			235.60	0.35	0.47		0.16	0.10	0.13			
Luhmann et al. (2011)	German SOEP (Wave 18)	21156	67	28240	30.3			236.03	0.35	0.47		0.15	0.09	0.12			
Luhmann et al. (2011)	German SOEP (Wave 19)	22624	67	28980	30			236.45	0.35	0.47		0.21	0.14	0.17			
Luhmann et al. (2011)	German SOEP (Wave 20)	21395	67	29720	30.3			236.62	0.35	0.47		0.20	0.14	0.17			
Luhmann et al. (2011)	German SOEP (Wave 21)	20864	67	32250	30.4			236.59	0.35	0.47		0.17	0.14	0.15			
Luhmann et al. (2011)	German SOEP (Wave 22)	19972	67	32250	32.3			236.47	0.35	0.47		0.17	0.15	0.16			
Luhmann et al. (2011)	German SOEP (Wave 23)	21110	67	34830	31.3			236.23	0.35	0.47		0.20	0.16	0.18			
Luhmann et al. (2011)	German SOEP (Wave 24)	19771	67	36990	31.3			235.94	0.35	0.47		0.20	0.15	0.18			
Luhmann et al. (2011)	German SOEP (Wave 25)	18647	67	38400	31.2	3.5	1.80	235.52	0.35	0.47		0.17	0.14	0.16			
Luhmann et al. (2011)	UK	8090	89	20990				240.43	0.64	0.42							
Luhmann et al. (2015)		5975	91	4694				33.24				0.19		0.19			

(*table continues*)

Table 1 (*continued*)

Study	Sample	N	Culture	GNI	GINI	90/10 ratio	90/50 ratio	Population density	Absolute mobility	Relative mobility	Objective-subjective SES	Income-SWB	Education-SWB	Objective SES-SWB	Ladder-SWB	Perceived SES-SWB	Subjective SES-SWB
Lundberg & Kristenson (2008)		795	71	38440	26.4			22.13	0.85	0.36	0.22		0.05	0.05	0.53		0.53
Marks & Fleming (1997)		1322	90									0.03		0.03			
Martos & Kopp (2012)		4841	80	16160	34.7			112.57	0.55	0.46		0.19	0.19	0.19			0.33
Mishra et al. (2014)		730	20									−0.01	−0.03	−0.02			
Møller & Saris (2001)		1848	65	6600				34.16	0.50	0.74		0.29		0.29			
Morris (1997)		215	91	27250	40.2			28.73					0.20	0.20			
O'Connor & Vallerand (1998)		129	80	19520		3.9	1.90	3.05				0.10	−0.10	0.00			
Oishi et al. (2015)	Survey (2003)	1349	46	29380				350.39	0.84	0.38		0.25		0.25			
Oishi et al. (2015)	Survey (2005)	938	46	32350				350.54	0.84	0.38		0.15		0.15			
Oishi et al. (2015)	Survey (2011)	1305	46	36790				350.66	0.86	0.31		0.21		0.21			
Orviska et al. (2012)		21940										0.15	0.11	0.13			
Oshio & Urakawa (2014)		10826						350.66	0.71	0.38		0.25	0.08	0.17			0.45
Oshio et al. (2011)	China	3208	20	5860				139.65	0.61	0.46	0.26	0.13	0.16	0.14	0.27		0.27
Oshio et al. (2011)	Japan	2125						350.77	0.71	0.38	0.07	0.07		0.07		0.33	0.27
Oshio et al. (2011)	South Korea	1552	18	25720	31.7			499.98	0.93	0.32	0.37	0.22	0.18	0.20		0.29	0.29
Oshio et al. (2013)		3292	46	35890				351.31	0.53	0.39		0.10	0.05	0.07			
Park et al. (2014)		2356	18	28650	32.3			505.77					0.15	0.15		0.25	0.25
Pavlova & Silbereisen (2012)	Study (2005)	1382	67	32250	32.3			236.47	0.33	0.40		0.16		0.16			
Pavlova & Silbereisen (2012)	Study (2006)	254	67	34830	31.3			236.23	0.33	0.40		−0.05		−0.05			
Peng et al. (2016)	Australia (ISSP 2011)	1329	90	40280				2.91	0.66	0.25	0.16	0.01	0.04	0.02	0.23		0.23
Peng et al. (2016)	Belgium (ISSP 2011)	2235	75	41700	28.1	3.4	1.70	364.54	0.74	0.36	0.38	0.18	0.13	0.16	0.33		0.33
Peng et al. (2016)	Bulgaria (ISSP 2011)	976	30	15180	34.3			67.69	0.75	0.53	0.43	0.34	0.22	0.28	0.43		0.43
Peng et al. (2016)	Chile (ISSP 2011)	1103	23	19110	47.6	7.6	3.00	23.18	0.78	0.50	0.49	0.22	0.18	0.20	0.27		0.27
Peng et al. (2016)	China (ISSP 2011)	4971	20	10260	42.4	23	2.90	143.17	0.61	0.46	0.13	0.04	0.07	0.05	0.35		0.35
Peng et al. (2016)	Taiwan (ISSP 2011)	1037	17						0.94	0.40	0.22	0.12	0.04	0.08	0.26		0.26
Peng et al. (2016)	Croatia (ISSP 2011)	1130	33	20190	32.3			76.49	0.70	0.48	0.32	0.20	0.12	0.16	0.35		0.35
Peng et al. (2016)	Czech Republic (ISSP 2011)	1707	58	26620	26.4	3	1.80	135.89	0.19	0.42	0.40	0.18	0.11	0.15	0.29		0.29
Peng et al. (2016)	Denmark (ISSP 2011)	1357	74	45340	27.3	2.9	1.60	131.29	0.66	0.38	0.31	0.15	0.04	0.09	0.26		0.26
Peng et al. (2016)	Finland (ISSP 2011)	1287	63	40870	27.6	3.2	1.70	17.73	0.81	0.28	0.23	0.07	0.02	0.04	0.24		0.24
Peng et al. (2016)	France (ISSP 2011)	2325	71	38440	33.3			119.34	0.68	0.47	0.27	0.11	0.20	0.15	0.29		0.29
Peng et al. (2016)	Germany (ISSP 2011)	1425	67	43770	30.5	3.5	1.90	230.31	0.35	0.47	0.31	0.22	0.07	0.14	0.28		0.28
Peng et al. (2016)	Israel (ISSP 2011)	1125	54	30160		5.9	2.30	358.86	0.82	0.30	0.25	0.15	0.07	0.11	0.31		0.31
Peng et al. (2016)	Italy (ISSP 2011)	1007	76	36250	35.1	4.3	2.00	201.88	0.76	0.51		0.23	0.07	0.15			
Peng et al. (2016)	Japan (ISSP 2011)	1165	46	36790				350.66	0.71	0.38	0.30	0.19	0.08	0.13	0.35		0.35
Peng et al. (2016)	South Korea (ISSP 2011)	1399	18	31410				513.80	0.93	0.32	0.35	0.22	0.20	0.21	0.28		0.28
Peng et al. (2016)	Lithuania (ISSP 2011)	1128	60	22020	32.5	4.5	2.10	48.32	0.70	0.15	0.43	0.38	0.23	0.31	0.47		0.47
Peng et al. (2016)	Netherlands (ISSP 2011)	1279	80	47250	27.7	3.2	1.80	495.05	0.70	0.51	0.45	0.27	0.14	0.20	0.30		0.30
Peng et al. (2016)	Norway (ISSP 2011)	1564	69	62730	25.3	3	1.60	13.56	0.61	0.49	0.28	0.13	0.09	0.11	0.28		0.28
Peng et al. (2016)	Philippines (ISSP 2011)	1189	32	6820				320.52	0.69	0.25	0.24	0.08	0.03	0.05	0.02		0.02
Peng et al. (2016)	Poland (ISSP 2011)	1103	60	22020	32.8	3.9	1.90	124.30	0.54	0.47	0.19	0.11	0.09	0.10	0.27		0.27
Peng et al. (2016)	Portugal (ISSP 2011)	942	27	26260	36.3	4.5	2.10	115.27	0.62	0.75	0.31	0.19	0.23	0.21	0.27		0.27
Peng et al. (2016)	Russia (ISSP 2011)	1443	39	23590	39.7	5.9	2.50	8.73	0.79	0.18	0.30	0.32	0.21	0.27	0.44		0.44
Peng et al. (2016)	Slovak Republic (ISSP 2011)	1120	52	24900	26.5	3.3	1.70	112.26	0.50	0.38	0.34	0.35	0.16	0.25	0.34		0.34
Peng et al. (2016)	Slovenia (ISSP 2011)	1002	27	28410	24.9	3.2	1.60	101.90	0.53	0.51	0.31	0.22	0.21	0.21	0.23		0.23
Peng et al. (2016)	South Africa (ISSP 2011)	2166	65	11870				42.87	0.78	0.38	0.42	0.26	0.28	0.27	0.38		0.38
Peng et al. (2016)	Spain (ISSP 2011)	1914	51	31510	35.7	5.1	2.10	93.51	0.86	0.50	0.36	0.22	0.17	0.20	0.21		0.21
Peng et al. (2016)	Sweden (ISSP 2011)	989	71	44720	27.6			23.03	0.78	0.29	0.21	0.14	0.15	0.14	0.30		0.30
Peng et al. (2016)	Switzerland (ISSP 2011)	1160	68	56830	31.7	3.7	1.80	200.23	0.60	0.31	0.35	0.09	0.05	0.07	0.21		0.21
Peng et al. (2016)	Turkey (ISSP 2011)	1298	37	19480	40	6.1	2.50	95.43	0.59	0.67	0.22	0.08	0.04	0.06	0.18		0.18
Peng et al. (2016)	UK (ISSP 2011)	757	89	36970	33.2	4.2	2.10	261.48	0.73	0.36		0.21	0.03	0.12			
Peng et al. (2016)	USA (ISSP 2011)	1411	91	50810				34.06	0.56	0.45		0.16	0.06	0.11			
Rankin et al. (2009)		151	91					32.26				0.27	0.05	0.16			
Reitzel et al. (2014)		2274	91	53110				34.31	0.56	0.45	0.33	0.21	0.10	0.15	0.42		0.42
Requena (1995)		1200	51	14850				78.81	0.56	0.79		0.13	0.13	0.13			
Rubin & Kelley (2015)		373	90										0.08	0.08		0.21	0.21
Salinas-Jiménez et al. (2010)	Andorra (WVS Wave 5)	1003						167.80			0.21		0.07	0.07	0.15	0.16	0.16
Salinas-Jiménez et al. (2010)	Argentina (WVS Wave 5)	1002	46	14830	46.6			14.36	0.61	0.46	0.37		0.06	0.06		0.11	0.11
Salinas-Jiménez et al. (2010)	Australia (WVS Wave 5)	1411	90	31360				2.66	0.66	0.25	0.36		0.08	0.08	0.16	0.20	0.18
Salinas-Jiménez et al. (2010)	Brazil (WVS Wave 5)	1500	38	11370	55.6	10.4	3.40	22.51	0.73	0.66	0.27		−0.02	−0.02	0.13	0.14	0.13

Table 1 (*continued*)

Study	Sample	N	Culture	GNI	GINI	90/10 ratio	90/50 ratio	Population density	Absolute mobility	Relative mobility	Objective-subjective SES	Income-SWB	Education-SWB	Objective SES-SWB	Ladder-SWB	Perceived SES-SWB	Subjective SES-SWB
Salinas-Jiménez et al. (2010)	Bulgaria (WVS Wave 5)	1001	30	11030	35.7			69.97	0.75	0.53	0.47		0.23	0.23	0.38	0.32	0.35
Salinas-Jiménez et al. (2010)	Canada (WVS Wave 5)	2164	80	37500		4.3	1.90	3.58	0.84	0.24	0.35		0.04	0.04	0.19	0.11	0.15
Salinas-Jiménez et al. (2010)	Chile (WVS Wave 5)	1000	23	13840	48.2			22.00	0.70	0.60	0.53		0.16	0.16	0.25	0.26	0.25
Salinas-Jiménez et al. (2010)	Colombia (WVS Wave 5)	3025	13	8110	53.7			38.44	0.66	0.82	0.42		0.00	0.00	0.08		0.08
Salinas-Jiménez et al. (2010)	Cyprus (WVS Wave 5)	1050		28320				113.15	0.89	0.38	0.39		0.12	0.12	0.25	0.11	0.18
Salinas-Jiménez et al. (2010)	Finland (WVS Wave 5)	1014	63	32130		3.1	1.70	17.22	0.82	0.35	0.42		0.16	0.16	0.23	0.21	0.22
Salinas-Jiménez et al. (2010)	France (WVS Wave 5)	1001	71	33080	29.7			116.19	0.68	0.47	0.34		0.19	0.19	0.24		0.24
Salinas-Jiménez et al. (2010)	Germany (WVS Wave 5)	2064	67	34830	31.3			236.23	0.37	0.37	0.37		0.14	0.14	0.29	0.24	0.27
Salinas-Jiménez et al. (2010)	Hong Kong (WVS Wave 5)	1252	25	36650				6488.76			0.37		0.14	0.14	0.18	0.23	0.20
Salinas-Jiménez et al. (2010)	India (WVS Wave 5)	2001	48	3310				392.00	0.42	0.97	0.35		0.17	0.17	0.18	0.19	0.18
Salinas-Jiménez et al. (2010)	Indonesia (WVS Wave 5)	2015	14	6260	34.2			126.59	0.47	0.76	0.32		0.09	0.09	0.22	0.15	0.19
Salinas-Jiménez et al. (2010)	Iraq (WVS Wave 5)	2701	30	10990				62.76	0.59	0.83	0.28		0.04	0.04	0.18	0.20	0.19
Salinas-Jiménez et al. (2010)	Italy (WVS Wave 5)	1012						197.08	0.82	0.60	0.45		0.09	0.09	0.18	0.23	0.21
Salinas-Jiménez et al. (2010)	Japan (WVS Wave 5)	1096						350.54	0.86	0.31	0.25		0.07	0.07	0.22	0.40	0.31
Salinas-Jiménez et al. (2010)	Malaysia (WVS Wave 5)	1201	26	17120				79.75	0.83	0.36	0.13		−0.01	−0.01	0.15	0.02	0.08
Salinas-Jiménez et al. (2010)	Mexico (WVS Wave 5)	1560	30	12390	48.9			54.53	0.73	0.64	0.53		0.07	0.07	0.11		0.11
Salinas-Jiménez et al. (2010)	Moldova (WVS Wave 5)	1046		4320	35.4			124.80	0.78	0.21	0.30		0.20	0.20	0.67	0.44	0.56
Salinas-Jiménez et al. (2010)	Netherlands (WVS Wave 5)	1050	80	41290	30			484.19	0.73	0.29	0.32		0.08	0.08	0.20		0.20
Salinas-Jiménez et al. (2010)	Peru (WVS Wave 5)	1500	16	6770	50.3			21.96	0.73	0.70	0.46		0.08	0.08	0.15	0.10	0.12
Salinas-Jiménez et al. (2010)	Poland (WVS Wave 5)	1000	60	14820	33.7	4.2	2.00	124.51	0.54	0.47	0.38		0.09	0.09	0.25	0.23	0.24
Salinas-Jiménez et al. (2010)	Romania (WVS Wave 5)	1776	30	9320				92.70	0.79	0.64	0.53		0.29	0.29	0.40	0.38	0.39
Salinas-Jiménez et al. (2010)	Russia (WVS Wave 5)	2033	39	14480	41			8.73	0.79	0.18	0.30		0.08	0.08	0.21		0.21
Salinas-Jiménez et al. (2010)	Serbia (WVS Wave 5)	1220	25	10070	29.7			84.74	0.64	0.46	0.46		0.27	0.27	0.48	0.39	0.44
Salinas-Jiménez et al. (2010)	Slovenia (WVS Wave 5)	1037	27	23720	24.6	3	1.70	99.33	0.52	0.43	0.46		0.22	0.22	0.30	0.21	0.25
Salinas-Jiménez et al. (2010)	South Africa (WVS Wave 5)	2988	65	10330				39.97	0.63	0.61	0.33		0.16	0.16	0.32	0.26	0.29
Salinas-Jiménez et al. (2010)	South Korea (WVS Wave 5)	1200	18	24010				497.52			0.25		0.05	0.05	0.30	0.28	0.29
Salinas-Jiménez et al. (2010)	Sweden (WVS Wave 5)	1003	71	38440	26.4			22.13	0.87	0.27	0.32		−0.03	−0.03	0.19	0.17	0.18
Salinas-Jiménez et al. (2010)	Taiwan (WVS Wave 5)	1227							0.94	0.40	0.35		0.15	0.15	0.31	0.26	0.29
Salinas-Jiménez et al. (2010)	Trinidad and Tobago (WVS Wave 5)	1002	16	25920				253.91			0.15		−0.03	−0.03	0.13	0.16	0.14
Salinas-Jiménez et al. (2010)	UK (WVS Wave 5)	1041	89	32940	34.3	4.4	2.10	249.66	0.64	0.42	0.34		0.06	0.06	0.17		0.17
Salinas-Jiménez et al. (2010)	Ukraine (WVS Wave 5)	1000	25	7110	29.8			80.76	0.77	0.19	0.27		0.19	0.19	0.45	0.30	0.37
Salinas-Jiménez et al. (2010)	Uruguay (WVS Wave 5)	1000	36	12120	45.9			19.00			0.35		0.10	0.10	0.11	0.09	0.10
Salinas-Jiménez et al. (2010)	Vietnam (WVS Wave 5)	1220	20	3260	35.8			272.90	0.70	0.50	0.24		0.09	0.09	0.38	0.11	0.25
Sandman et al. (2015)		13314	63									0.23	0.09	0.16			
Sani et al. (2010)	Study 2	113	89	36500	45.6										0.45		0.45
Selim (2008)	Turkey (WVS Wave 4)	3207	37	8990				83.41	0.59	0.67	0.34		0.00	0.00	0.15	0.18	0.17
Silver, Holman, & Poulin (2002)		2035	91	38430				31.39	0.64	0.47		0.23	0.10	0.16			
Singh-Manoux et al. (2003)		6981	89	27640							0.46	0.13	0.01	0.07	0.33		0.33
Sivis-Cetinkaya (2013)		991	37	20460	40.2	6	2.50	97.00				0.11		0.11			
Smith, Hout, & Marsden (2017)	GSS (1972)	1468	91					22.92			0.35	0.14	0.07	0.11		0.17	0.17
Smith, Hout, & Marsden (2017)	GSS (1973)	1393	91					23.14			0.23	0.20	0.04	0.12		0.13	0.13
Smith, Hout, & Marsden (2017)	GSS (2014)	2310	91	56730				34.81	0.56	0.45	0.30	0.14	0.15	0.15		0.17	0.17
Smith, Hout, & Marsden (2017)	GSS (2016)	2428	91	58960				35.32	0.56	0.45	0.28	0.19	0.12	0.15		0.22	0.22
Smith, Hout, & Marsden (2017)	GSS (2018)	2348	91	63390				35.77	0.56	0.45	0.25	0.16	0.11	0.14		0.17	0.17
Stack & Eshleman (1998)	Argentina (WVS Wave 1)	898	46					10.87	0.51	0.55						0.08	0.08
Stack & Eshleman (1998)	Australia (WVS Wave 1)	849	90		31.3		1.86	1.94	0.55	0.39					0.08		0.08
Stack & Eshleman (1998)	Japan (WVS Wave 1)	1021	46					321.09							0.07		0.07
Stack & Eshleman (1998)	Mexico (WVS Wave 1)	1523	30					35.70	0.44	0.73					0.07		0.07
Stack & Eshleman (1998)	South Africa (WVS Wave 1)	1277	65					24.85	0.37	0.85					0.13		0.13
Stack & Eshleman (1998)	South Korea (WVS Wave 1)	917	18					407.70							0.14		0.14
Stack & Eshleman (1998)	Sweden (WVS Wave 1)	854	71					20.28							0.04		0.04
Stack & Eshleman (1998)	USA (WVS Wave 1)	1924	91					25.05							0.11	0.07	0.09
Stavrova et al. (2012)	Australia (ISSP 2002)	1216	90	27940				2.56	0.66	0.25	0.29	0.00	−0.03	−0.01	0.23		0.23
Stavrova et al. (2012)	West Germany (ISSP 2002)	897	67	28980	30			236.45	0.37	0.37	0.32	0.12	0.04	0.08	0.29		0.29
Stavrova et al. (2012)	East Germany (ISSP 2002)	417									0.28	0.20	0.05	0.12	0.26		0.26
Stavrova et al. (2012)	UK (ISSP 2002)	1745	89	29260		4.5	2.10	245.40	0.64	0.42		0.07	−0.02	0.02			
Stavrova et al. (2012)	Northern Ireland (ISSP 2002)	571										0.17	0.07	0.12			
Stavrova et al. (2012)	USA (ISSP 2002)	1068	91	38430				31.39	0.64	0.47		0.13	0.08	0.10			
Stavrova et al. (2012)	Austria (ISSP 2002)	2011	55	31000				97.87	0.43	0.45	0.31	0.28	0.11	0.19	0.32		0.32

(*table continues*)

Table 1 (*continued*)

Study	Sample	N	Culture	GNI	GINI	90/10 ratio	90/50 ratio	Population density	Absolute mobility	Relative mobility	Objective-subjective SES	Income-SWB	Education-SWB	Objective SES-SWB	Ladder-SWB	Perceived SES-SWB	Subjective SES-SWB
Stavrova et al. (2012)	Hungary (ISSP 2002)	854	80	13820				113.35	0.55	0.46	0.36	0.28	0.19	0.23	0.33		0.33
Stavrova et al. (2012)	Ireland (ISSP 2002)	1203	70	29520				57.00	0.77	0.38		0.14	0.10	0.12			
Stavrova et al. (2012)	Netherlands (ISSP 2002)	1013	80	34350				478.35	0.70	0.51		0.13	0.01	0.07			
Stavrova et al. (2012)	Norway (ISSP 2002)	1303	69	38070				12.43	0.66	0.38	0.31	0.09	−0.01	0.04	0.18		0.18
Stavrova et al. (2012)	Sweden (ISSP 2002)	923	71	30720				21.75	0.87	0.27	0.24	0.13	0.02	0.08	0.12		0.12
Stavrova et al. (2012)	Czech Republic (ISSP 2002)	1151	58	17560				131.97	0.21	0.51	0.40	0.19	0.10	0.15	0.25		0.25
Stavrova et al. (2012)	Slovenia (ISSP 2002)	1056	27	20130				99.03	0.52	0.43	0.34	0.18	0.16	0.17	0.23		0.23
Stavrova et al. (2012)	Poland (ISSP 2002)	1128	60	11740	34.1			124.82	0.69	0.43	0.30	0.23	0.24	0.23	0.33		0.33
Stavrova et al. (2012)	Bulgaria (ISSP 2002)	923	30	7890				72.03	0.75	0.53	0.31	0.26	0.20	0.23			
Stavrova et al. (2012)	Russia (ISSP 2002)	1339	39	7880	37.3			8.87	0.85	0.21		0.14	0.17	0.16			
Stavrova et al. (2012)	New Zealand (ISSP 2002)	883	79	22130				15.00	0.56	0.19		0.10	0.04	0.07	0.15		0.15
Stavrova et al. (2012)	Philippines (ISSP 2002)	1051	32	4230				272.88	0.69	0.25	0.19	0.08	0.03	0.05	0.17		0.17
Stavrova et al. (2012)	Israel (ISSP 2002)	893	54	24290				303.60	0.79	0.35	0.28	0.21	0.12	0.17	0.27		0.27
Stavrova et al. (2012)	Japan (ISSP 2002)	1095	46	28560				349.64	0.86	0.31	0.20	0.12	0.08	0.10	0.32		0.32
Stavrova et al. (2012)	Spain (ISSP 2002)	1556	51	24090				83.02	0.76	0.64		0.12	0.11	0.12			
Stavrova et al. (2012)	Latvia (ISSP 2002)	714	70	10090				37.14	0.75	0.14	0.36	0.26	0.11	0.18	0.34		0.34
Stavrova et al. (2012)	Slovak Republic (ISSP 2002)	1100	52	13240				111.79	0.50	0.38	0.25	0.18	0.11	0.15	0.16		0.16
Stavrova et al. (2012)	France (ISSP 2002)	1544	71	28820				112.87	0.68	0.47		0.20	0.12	0.16			
Stavrova et al. (2012)	Cyprus (ISSP 2002)	864		22340				105.73	0.89	0.38	0.70	0.16	0.12	0.14	0.18		0.18
Stavrova et al. (2012)	Portugal (ISSP 2002)	907	27	20010				113.88	0.62	0.75	0.48	0.21	0.13	0.17	0.14		0.14
Stavrova et al. (2012)	Chile (ISSP 2002)	1293	23	9930				21.09	0.70	0.60	0.42	0.14	0.17	0.15	0.19		0.19
Stavrova et al. (2012)	Denmark (ISSP 2002)	1282	74	30260				126.70	0.69	0.44	0.28	0.06	−0.04	0.01	0.13		0.13
Stavrova et al. (2012)	Switzerland (ISSP 2002)	684	68	38720				184.32	0.60	0.47	0.35	0.17	−0.05	0.06	0.28		0.28
Stavrova et al. (2012)	Belgium (ISSP 2002)	1117	75	30990				341.24	0.73	0.47	0.20	0.03	0.03	0.03	0.13		0.13
Stavrova et al. (2012)	Brazil (ISSP 2002)	1756	38	9260	58.1			21.48	0.73	0.66		0.02	0.06	0.04			
Stavrova et al. (2012)	Finland (ISSP 2002)	1015	63	28650		3	1.70	17.07	0.82	0.35		0.06	0.11	0.09			
Stavrova et al. (2012)	Mexico (ISSP 2002)	1241	30	10990	49			52.31	0.73	0.64	0.34	0.10	0.15	0.12	0.09		0.09
Stavrova et al. (2012)	Taiwan (ISSP 2002)	1868	17						0.81	0.60		0.11	0.14	0.13			
Steverink & Lindenberg (2006)	Netherlands (Time 1)	883	80	33040				475.30					0.10	0.10			
Steverink & Lindenberg (2006)	Netherlands (Time 2)	439	80	33040				475.30									
Suh et al. (1998)	Argentina (WVS Wave 2)	752	46	7960	46.8			12.09	0.51	0.55					0.12	0.07	0.10
Suh et al. (1998)	Belarus (WVS Wave 2)	997		5430				50.23	0.60	0.23					0.07		0.07
Suh et al. (1998)	Brazil (WVS Wave 2)	1668	38	6760				18.14	0.66	0.85	0.43		−0.07	−0.07	−0.03	0.02	−0.01
Suh et al. (1998)	Chile (WVS Wave 2)	1467	23	4270	57.2			17.85	0.70	0.60					0.06	0.07	0.07
Suh et al. (1998)	China (WVS Wave 2)	977	20	990	32.3			120.92	0.49	0.52					0.08	0.08	0.08
Suh et al. (1998)	Czech Republic (WVS Wave 2)	921	58					133.41	0.24	0.47					0.10		0.10
Suh et al. (1998)	India (WVS Wave 2)	846	48	1220				293.72	0.45	1.07	0.40		0.10	0.10	0.15	0.09	0.12
Suh et al. (1998)	Japan (WVS Wave 2)	860	46	19710				338.83	0.84	0.38					0.17	0.01	0.09
Suh et al. (1998)	Mexico (WVS Wave 2)	1434	30	6280				43.18	0.63	0.70					0.13	0.17	0.15
Suh et al. (1998)	Nigeria (WVS Wave 2)	886	30	2060				104.54	0.43	0.51	0.31		−0.05	−0.05	0.20	−0.01	0.10
Suh et al. (1998)	Poland (WVS Wave 2)	920	60					123.94	0.80	0.38					0.20	0.17	0.19
Suh et al. (1998)	Russia (WVS Wave 2)	1664	39	7990				9.05	0.80	0.31					0.08		0.08
Suh et al. (1998)	Slovak Republic (WVS Wave 2)	462	52					110.17	0.58	0.33					0.03		0.03
Suh et al. (1998)	South Africa (WVS Wave 2)	2345	65	6190				30.34	0.50	0.74	0.64		0.27	0.27	0.37		0.37
Suh et al. (1998)	South Korea (WVS Wave 2)	1171	18	8260				444.43	0.87	0.53	0.41		0.15	0.15	0.19	0.22	0.21
Suh et al. (1998)	Spain (WVS Wave 2)	1151	51	13520				77.82	0.56	0.79					0.10	0.09	0.09
Suh et al. (1998)	Switzerland (WVS Wave 2)	1108	68					168.15	0.57	0.39	0.13		−0.03	−0.03	0.06		0.06
Suh et al. (1998)	Turkey (WVS Wave 2)	1004	37	6040				70.06	0.50	0.62	0.35		0.00	0.00	0.15		0.15
Suhail & Chaudhry (2004)		973	14									0.24		0.24			
Sulimani-Aidan & Rimmerman (2015)		70	54										0.26	0.26			
Tan (2016)		1167	20	85090				7908.72								0.17	0.17
Tan & Kim (2017)	Hong Kong (WVS Wave 6)	996	25	56930				6885.24			0.25		0.04	0.04	0.25	0.15	0.20
Tan & Kim (2017)	Japan (WVS Wave 6)	2216	46	35890				351.31	0.86	0.31	0.23		0.04	0.04	0.19	0.34	0.27
Tan & Kim (2017)	Malaysia (WVS Wave 6)	1300	26	22250				88.47	0.83	0.36	0.12		0.02	0.02	0.21	0.09	0.15
Tan & Kim (2017)	Philippines (WVS Wave 6)	1200	32	7330	42.2			326.03	0.69	0.25	0.22		0.09	0.09	0.12	0.07	0.10
Tan & Kim (2017)	Singapore (WVS Wave 6)	1967	20	75470				7524.70			0.22		−0.03	−0.03	0.17	0.11	0.14
Tan & Kim (2017)	South Korea (WVS Wave 6)	1181	18	30400	32			509.82	0.93	0.32	0.30		0.07	0.07	0.18	0.25	0.22
Tan & Kim (2017)	Taiwan (WVS Wave 6)	1216	17						0.94	0.40	0.36		0.07	0.07	0.25	0.21	0.23

Table 1 (*continued*)

Study	Sample	N	Culture	GNI	GINI	90/10 ratio	90/50 ratio	Population density	Absolute mobility	Relative mobility	Objective-subjective SES	Income-SWB	Education-SWB	Objective SES-SWB	Ladder-SWB	Perceived SES-SWB	Subjective SES-SWB
Tan & Kim (2017)	Thailand (WVS Wave 6)	1178	20	14340	37.8			133.38			0.25		−0.05	−0.05	0.00	0.07	0.04
Tan & Kraus (2017)		599	91	58300				35.06	0.47	0.34	0.33	0.16	0.15	0.16	0.40		0.40
Tan, Kraus, Impett & Keltner (2020)		160	91	48290				33.24	0.47	0.34	0.21		0.04	0.04	0.06		0.06
Tang & Tan (2018)		251	20	94500				7953.00			0.39		0.05	0.05	0.30		0.30
Tang et al. (2006)		238	20									0.07	−0.05	0.01			
Taylor et al. (2001)		2107	91		34.6			24.57	0.51	0.42		0.02	−0.06	−0.02			
Thoits & Hewitt (2001)		3617	91		37.5			26.22	0.47	0.34		0.00	0.12	0.06			
Varnum (2013)		1249	91	47160				32.57	0.56	0.45	0.33		0.09	0.09	0.26	0.23	0.25
Vera-Villarroel et al. (2012)		520	23										0.03	0.03			
Wang & Wong (2014)	Argentina (ISSP 2007)	1332	46	16550	46.3			14.50	0.61	0.46	0.34	0.08	0.07	0.07	0.13		0.13
Wang & Wong (2014)	Australia (ISSP 2007)	2342	90	34930				2.71	0.66	0.25	0.27	0.02	0.02	0.02	0.11		0.11
Wang & Wong (2014)	Austria (ISSP 2007)	1020	55	39350	30.6	3.6	1.80	100.46	0.45	0.51	0.25	0.04	0.06	0.05	0.14		0.14
Wang & Wong (2014)	Belgium (ISSP 2007)	1088	75	37360	29.2	3.3	1.70	350.92	0.73	0.47	0.30	0.03	−0.05	−0.01	0.03		0.03
Wang & Wong (2014)	Bulgaria (ISSP 2007)	981	30	11870	36.1			69.47	0.75	0.53	0.16	0.14	0.05	0.10	0.11		0.11
Wang & Wong (2014)	Chile (ISSP 2007)	1172	23	15050				22.23	0.78	0.50	0.41	0.12	0.15	0.14	0.22		0.22
Wang & Wong (2014)	Taiwan (ISSP 2007)	1975	17						0.94	0.40	0.23	0.03	−0.04	0.00	0.06		0.06
Wang & Wong (2014)	Croatia (ISSP 2007)	1068	33	18950				77.02	0.70	0.48	0.32	0.11	0.17	0.14	0.15		0.15
Wang & Wong (2014)	Cyprus (ISSP 2007)	984		30750	31.1			115.12	0.89	0.38	0.55	0.17	0.16	0.17	0.14		0.14
Wang & Wong (2014)	Czech Republic (ISSP 2007)	701	58	24460	26	3	1.80	133.32	0.21	0.51		0.05	−0.01	0.02			
Wang & Wong (2014)	Dominican Republic (ISSP 2007)	2003	30	9360	48.9			193.31			0.33	0.03	0.05	0.04	0.12		0.12
Wang & Wong (2014)	Finland (ISSP 2007)	1287	63	37820	28.3	3.2	1.70	17.39	0.81	0.28	0.27	0.00	−0.03	−0.01	−0.01		−0.01
Wang & Wong (2014)	France (ISSP 2007)	1856	71	34770	32.4			116.91	0.68	0.47	0.40	0.01	−0.08	−0.04	0.07		0.07
Wang & Wong (2014)	Germany (ISSP 2007)	1641	67	36990	31.3			235.94	0.37	0.37	0.36	0.11	0.05	0.08	0.13		0.13
Wang & Wong (2014)	Hungary (ISSP 2007)	860	80	17780	27.9	3.1	1.70	112.22	0.49	0.47		0.24	0.21	0.23			
Wang & Wong (2014)	Ireland (ISSP 2007)	1849	70	40430	31.9	3.8	1.90	63.82	0.80	0.34	0.27	0.10	0.08	0.09	0.13		0.13
Wang & Wong (2014)	Israel (ISSP 2007)	1275	54	27420	41			331.80	0.82	0.30	0.23	0.10	0.03	0.06	0.25		0.25
Wang & Wong (2014)	Japan (ISSP 2007)	1220	46	35540				351.17	0.86	0.31	0.26	0.01	−0.01	0.00	0.03		0.03
Wang & Wong (2014)	South Korea (ISSP 2007)	1366	18	27740				502.31	0.93	0.32	0.41	0.15	0.10	0.12	0.19		0.19
Wang & Wong (2014)	Latvia (ISSP 2007)	1017	70	17590	37.5	6.1	2.30	35.38	0.69	0.28	0.27	0.06	0.07	0.06	0.14		0.14
Wang & Wong (2014)	Mexico (ISSP 2007)	1588	30	14050				56.16	0.73	0.64	0.33	0.02	0.09	0.05	0.10		0.10
Wang & Wong (2014)	New Zealand (ISSP 2007)	899	79	27290				16.04	0.56	0.19	0.18	−0.01	−0.07	−0.04	0.11		0.11
Wang & Wong (2014)	Norway (ISSP 2007)	1014	69	55720	27.1			12.89	0.61	0.49	0.22	0.03	−0.04	0.00	0.06		0.06
Wang & Wong (2014)	Philippines (ISSP 2007)	1197	32	5710				299.85	0.69	0.25	0.24	0.07	0.07	0.07	0.07		0.07
Wang & Wong (2014)	Poland (ISSP 2007)	1287	60	16220	33.5	3.9	2.00	124.45	0.69	0.43	0.35	0.12	0.08	0.10	0.15		0.15
Wang & Wong (2014)	Russia (ISSP 2007)	2002	39	16280	42.3			8.72	0.79	0.18	0.22	0.06	0.04	0.05	0.05		0.05
Wang & Wong (2014)	Slovak Republic (ISSP 2007)	1109	52	20540	24.7	3	1.70	111.74	0.40	0.31	0.39	0.12	0.06	0.09	0.20		0.20
Wang & Wong (2014)	Slovenia (ISSP 2007)	517	27	26970	24.4	3	1.60	100.21	0.53	0.51	0.33	0.21	0.16	0.19	0.16		0.16
Wang & Wong (2014)	South Africa (ISSP 2007)	2181	65	10870				40.49	0.63	0.61	0.47	0.21	0.20	0.21	0.30		0.30
Wang & Wong (2014)	Sweden (ISSP 2007)	1122	71	41850	27.1			22.29	0.87	0.27	0.27	0.08	0.25	0.17	0.14		0.14
Wang & Wong (2014)	Switzerland (ISSP 2007)	977	68	50050	34.3	3.7	1.90	191.09	0.60	0.47	0.36	0.11	0.04	0.08	0.15		0.15
Wang & Wong (2014)	UK (ISSP 2007)	777	89	35240	35.7	4.6	2.10	253.47	0.64	0.42		0.04	0.00	0.02			
Wang & Wong (2014)	USA (ISSP 2007)	1406	91	48280	41.1			32.88	0.64	0.47		0.10	0.07	0.08			
Wang & Xie (2015)	China	2229	20	3930				137.24	0.61	0.46		0.16	0.17	0.17		0.31	0.31
Wang & Xie (2015)	China	1535	20	7660	42.9			141.10	0.57	0.60		0.06	0.21	0.14			
Zagefka & Brown (2005)		235															0.26
Zhou & Zhang (2007)		1308	20									0.17		0.17			

Note. GNI = gross national income; SES = socioeconomic status; SWB = subjective well-being; N = sample size; r = correlation coefficient effect size.

(d) population density, and (e) social mobility. The criteria used to code for each moderator were as follows: wealth of country was coded using the gross national income (GNI) per capita of the country in purchasing power parity (PPP) international dollars that the data of the sample was collected, at the time of sampling, provided by the World Bank classification. Cultural orientation was coded using Hofstede's National Culture measure (Hofstede, 2001; Hofstede, Hofstede, & Minkov, 2010). Each sample was scored on individualism based on their country of origin on a scale of 0 to 100, with higher scores indicating that the country is higher in individualism and lower scores indicating that the country is higher in collectivism.

Three indices were used to assess the level of income inequality: the GINI, 90/10 ratio, and 90/50 ratio. The GINI index was obtained from 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. The 90/10 and 90/50 ratios were obtained from the OECD Income Distribution Database. The 90/10 assessed the ratio of income earned by those at the 90th percentile to the 10th percentile, while the 90/50 ratio assessed the income earned by those at the 90th percentile to the 50th or median percentile. Although all of these indices assess income inequality, the ratio indices focus on how much income is concentrated at the top or how "top-heavy" the income distributions are, whereas the GINI focuses on how much income distributions deviate from perfect equality. As the GINI is highly sensitivity to outliers (De Maio, 2007) and the same GINI can often be represented by very different income distributions (Bellù & Liberati, 2006), the inclusion of 90/10 and 90/50 ratios allows for more specific types of unequal distributions to be examined.

Two indices of social mobility—absolute mobility and relative mobility—were coded for each sample based on the country's intergenerational social mobility index for cohorts between 1940 to 1989 provided by the World Bank (Narayan et al., 2018). The cohort year of each sample in the current meta-analysis was estimated by subtracting the mean age of the sample from the year in which the study was conducted (i.e., the time of sampling). Absolute mobility was assessed by the proportion of individuals sampled who attained an educational level that was higher than their parents. A higher proportion reflected higher absolute mobility. Relative mobility was assessed by the index of intergenerational persistence, obtained from the coefficient of individuals' years of education regressed on their parents' years of education. A smaller coefficient reflected higher relative mobility. To ease interpretation of the results later, the coefficient was multiplied by -1, so that higher values would indicate higher relative mobility. Finally, population density for each sample was coded also using data provided by the World Bank based on the time of sampling.

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

Effect Size Calculation

After coding for all study characteristics and moderators, the r effect size for the SES-SWB relation for each sample was computed from the retrieved zero-order bivariate correlations. In general, positive effect sizes indicate that higher SES is associated with greater SWB, when SWB was assessed as life satisfaction and happiness. Table 1 shows all the effect size estimates, sample characteristics, and moderators that were coded. The percentage of studies by region and country are presented in Table 2 and Table 3, respectively.

Unit of Analysis

The primary unit of analysis for the overall effect size estimation was the independent sample. For the objective SES-SWB association, some samples reported either the income-SWB association or the education-SWB association, or both. In samples that reported associations with both income and education, an average of their effect sizes within that sample was computed. As such, samples that reported one association had only one effect size (i.e., income-SWB r or education-SWB r), while samples that reported two associations with income and education had three effect sizes (i.e., the income-SWB r, education-SWB r, and their averaged r). In the meta-analysis of the objective SES-SWB association, we estimated three overall effect sizes from the independent samples—an income-SWB r from samples with income measured ($k = 335$), an education-SWB r from samples with education measured ($k = 561$), and an overall objective SES-SWB r from all samples ($k = 586$). The overall objective SES-SWB r was estimated with one effect size from each independent sample, and in samples where two effect sizes were reported, their averaged effect sizes were used for the estimation.

Similarly, for the subjective SES-SWB association, some samples reported either the ladder SES-SWB association or the perceived SES-SWB association, or both. In samples that reported associations with both the ladder SES and perceived SES, an average of their effect sizes within that sample was computed. As such, samples that reported one association had only one effect size (i.e., ladder SES-SWB r or perceived SES-SWB r), while samples that reported two associations with the ladder SES and perceived SES had three effect sizes (i.e., ladder SES-SWB r, perceived SES-SWB r and their averaged r). In the meta-analysis of the subjective SES-SWB association, we estimated three overall effect sizes from the independent

Table 2
Percentage of Total Studies by Region Based on World Bank Classification

Region	Percentage (%)
Europe and Central Asia	48.3
East Asia and Pacific	16.6
North America	13.8
Latin America and Caribbean	9.3
Middle East and North Africa	5.3
Sub-Saharan Africa	4.5
South Asia	2.2

Table 3
Percentage of Total Studies by Country

Country	Percentage (%)
United States	13.1
Germany	7.8
Sweden	3.0
Japan	2.9
United Kingdom	2.9
Australia	2.6
China	2.2
Russia	2.0
South Korea	1.9
Turkey	1.9
South Africa	1.9
Spain	1.8
Chile	1.8
Poland	1.6
Israel	1.6
Philippines	1.4
Taiwan	1.4
Netherlands	1.4
Slovenia	1.4
Mexico	1.4
New Zealand	1.3
Hungary	1.3
Norway	1.3
Switzerland	1.3
Brazil	1.3
Czech Republic	1.1
Finland	1.1
Slovak Republic	1.1
Bulgaria	<1
Cyprus	<1
France	<1
Portugal	<1
Argentina	<1
India	<1
Austria	<1
Ireland	<1
Italy	<1
Latvia	<1
Ukraine	<1
Uruguay	<1
Singapore	<1
Thailand	<1
Belarus	<1
Belgium	<1
Croatia	<1
Denmark	<1
Georgia	<1
Moldova	<1
Colombia	<1
Peru	<1
Canada	<1
Pakistan	<1
Nigeria	<1
Hong Kong, SAR	<1
Malaysia	<1
Armenia	<1
Kyrgyz Republic	<1
Northern Ireland	<1
Romania	<1
Serbia	<1
Dominican Republic	<1
Venezuela	<1
Egypt	<1
Iraq	<1
Jordon	<1
Morocco	<1
Bangladesh	<1
Indonesia	<1
Vietnam	<1
Albania	<1
Azerbaijan	<1
Bosnia and Herzegovina	<1
Estonia	<1
Kazakhstan	<1
Lithuania	<1
Macedonia	<1
Montenegro	<1
Trinidad and Tobago	<1
Iran	<1
Saudi Arabia	<1
Ghana	<1
Rwanda	<1
Zimbabwe	<1
Andorra	<1
Srpska	<1
Uzbekistan	<1
Ecuador	<1
El Salvador	<1
Guatemala	<1
Algeria	<1
Kuwait	<1
Lebanon	<1
Libya	<1
Qatar	<1
Tunisia	<1
Yemen	<1
Palestine	<1
Burkina Faso	<1
Ethiopia	<1
Mali	<1
Tanzania	<1
Uganda	<1
Zambia	<1

(*table continues*)

Table 3 (*continued*)

samples—a ladder-SWB r from samples with the ladder SES measured (k = 389), a perceived SES-SWB r from samples with perceived SES measured (k = 299), and an overall subjective SES-SWB r from all samples (k = 477). The overall subjective SES-SWB r was estimated based on one effect size from each independent sample, and in samples where two effect sizes were reported, their averaged effect sizes were used for the estimation.

As a significant number of study samples reported both objective SES-SWB and subjective SES-SWB associations within the same sample (k = 440), the correlations between the objective SES and subjective SES measures were available in these cases. As such, the overall effect sizes of the objective SES and subjective SES associations were also estimated. Samples that reported only one objective SES (e.g., income) and one subjective SES measure (e.g., ladder SES) had only one objective SES-subjective SES effect size (e.g., income-ladder SES r). Samples that reported more than one objective SES or subjective SES measure had more than one effect size computed: the correlations between each measure of objective SES and subjective SES, and also their averaged effect sizes. For example, if a sample reported income, education, and ladder SES, this resulted in three effect sizes—the income-ladder SES *r*, education-ladder SES *r*, and their averaged *r*.

Data Analysis

To estimate the overall objective SES-subjective SES *r* effect size, the Bare-Bones analysis was used, following the procedure outlined by Schmidt and Hunter (2015). To estimate the overall objective SES-SWB *r* effect size and the overall subjective SES-SWB *r* effect size, two sets of analyses were used—the Bare-Bones analysis (Schmidt & Hunter, 2015) and the random-effects multivariate meta-analysis using the Structural Equation Modeling (SEM) approach (Cheung, 2015a). As noted earlier, the current set of studies included samples that reported both objective SES-SWB and subjective SES-SWB correlations within the same sample. Because objective SES and subjective SES are related constructs, the objective SES-SWB and subjective SES-SWB effect sizes obtained from the same study sample are therefore, dependent. The Bare-Bones analysis was used for effect size estimation and homogeneity tests using all samples, assuming nondependence between the objective and subjective SES-SWB *r* effect sizes. On the other hand, the random-effects multivariate meta-analysis was used for effect size estimation and homogeneity tests, taking into account the dependence of the objective and subjective SES-SWB *r* effect sizes obtained from some of the samples. In this latter approach, the objective SES-SWB and subjective SES-SWB *r* effect sizes were concurrently estimated as latent variables under the SEM framework, using their known sampling covariance (i.e., the objective SES and subjective SES correlations) as the covariance of the measurement errors. The benefit of this approach is that the "true" objective SES-SWB and subjective SES-SWB *r* effect sizes can be estimated with the measurement error linked to both SES measures removed. This analysis was conducted with the meta-analytic software package meta-SEM (Cheung, 2015b) in R.

All analyses were conducted using the random-effects analysis. This choice is appropriate given that the studies included in this meta-analysis were obtained from a range of cross-cultural and international samples with varying study characteristics, and study population parameters are likely to differ across these studies. A fixed-effects analyses, on the other hand, would render the current findings more susceptible to Type-I error than the random-effects analyses (Borenstein, Hedges, Higgins, & Rothstein, 2009; Cheung, 2015a; Hunter & Schmidt, 2000). To evaluate the first hypothesis that subjective SES-SWB association is larger than the objective SES-SWB association, we directly compared the objective SES-SWB and the subjective SES-SWB *r* effect size estimates. To evaluate the second hypothesis that the objective SES and SWB relationship is mediated by subjective SES, we conducted path analyses using the obtained meta-analytic effect sizes, following procedures outlined by Hagger, Chan, Protogerou, and Chatzisarantis (2016).

For the moderator tests, two sets of analyses were also conducted. The first set of analyses used metaregression to examine the influence of moderators on the objective SES-SWB and subjective SES-SWB *r* effect sizes independently. This was conducted in R using the meta-analytic software metafor, Version 1.9–8 (Viechtbauer, 2010). The second set of analyses used the mixed-effects multivariate analysis, an extension of the random-effects multivariate analysis using the SEM approach described earlier, which enabled moderators to be examined on both the objective SES-SWB and subjective SES-SWB *r* effect sizes concurrently. This was conducted in R with the meta-analytic software package meta-SEM (Cheung, 2015b).

Results

The Overall Effect Size of the Objective SES and Subjective SES Associations

The overall mean weighted effect size ($k = 432$) was .323 with 95% confidence interval (CI) [.314, .332]. The mean weighted effect sizes for the individual measures of objective SES and subjective SES were as follows: The income-ladder SES *r* ($k = 141$) was .331 with 95% CI [.311, .350], the education-ladder SES *r* ($k = 360$) was .325 with 95% CI [.313, .336], the income-perceived SES *r* ($k = 66$) was .262 with 95% CI [.240, .284], and the education-perceived SES *r* ($k = 272$) was .334 with 95% CI [.322, .346]. With the exception of the income-perceived SES *r*, all of the estimates of the objective SES and subjective SES associations were consistent with the moderate effect sizes that have been documented in past works (Cundiff & Matthews, 2017; Kraus et al., 2012). The *r* effect sizes reported here are depicted in the forest plot in Figure 2.

The Overall Effect Size of the SES and SWB Associations

Nondependence of effect sizes assumed. Using the Bare-Bones analysis (Schmidt & Hunter, 2015), the overall mean weighted objective SES-SWB *r* ($k = 586$) obtained was .161, with 95% CI [.155, .168]. After correcting for measurement unreliability in SWB, the objective SES-SWB *r* was .163, with 95% CI [.156, .169]. The income-SWB *r* ($k = 335$) was .225, with 95% CI [.215, .235], and after correcting for measurement unreliability was .234, with 95% CI [.224, .245]. The education-SWB *r* ($k = 561$) was .119, with 95% CI [.113, .124], and after correcting for measurement unreliability was .122, with 95% CI [.117, .127]. In summary, the objective indices of SES were positively and significantly associated with SWB.

Also using Bare-Bones analysis, the overall mean weighted subjective SES-SWB *r* ($k = 447$) obtained was .212, with 95% CI [.203, .221]. After correcting for measurement unreliability in SWB, the subjective SES-SWB *r* was .217, with 95% CI [.216, .218]. The ladder SES-SWB *r* ($k = 389$) was .219 with 95% CI [.209, .230], and after correcting for measurement unreliability was .220, with 95% CI [.209, .231]. The perceived SES-SWB *r* ($k = 299$) was .195 with 95% CI [.184, .205], and after correcting for measurement unreliability was .196, with 95% CI [.186, .207]. Together, these estimates illustrate that the indices of subjective SES were also positively and significantly associated with SWB. All *r* effect sizes reported in this analysis are presented in Table 4, and are also depicted in the forest plot in Figure 2.

Dependence of effect sizes assumed. A random-effects multivariate meta-analysis using the SEM approach (Cheung, 2015a)

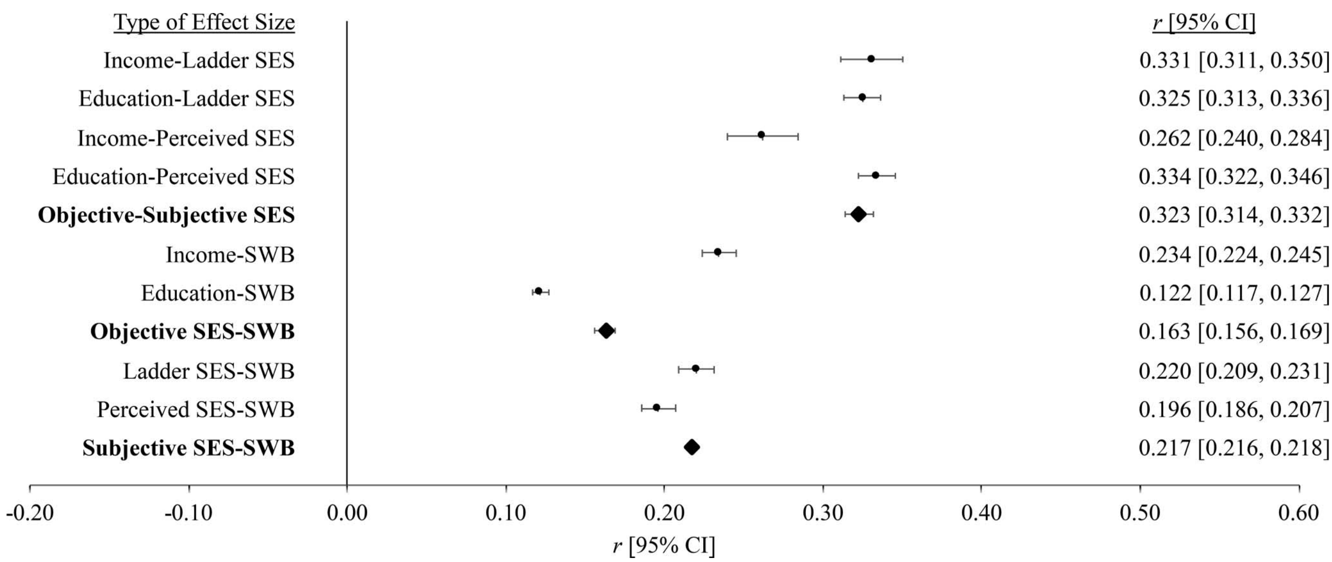


Figure 2. Overall meta-analytic effect sizes (r) of the associations between objective socioeconomic status (SES), subjective SES and subjective well-being (SWB).

was used to estimate the objective SES-SWB r and subjective SES-SWB r concurrently. In this analysis, the objective SES-SWB and subjective SES-SWB r effect sizes were modeled as latent variables with their known sampling covariance matrix of the effect sizes imposed as the covariance matrix of the measurement errors. The sampling covariance matrix comprised of the objective SES-SWB and subjective SES-SWB effect size variances and their sampling covariances, calculated from the correlation between the objective SES and subjective SES measures provided in each sample (see Cheung, 2015a for details on computations).

First, the analysis showed that the test of homogeneity of effect sizes was significant, $Q(df = 879) = 10{,}287.53$, $p < .001$. Additionally, the I^2 for objective SES-SWB and subjective SES-SWB r effect sizes were 0.870 and .934, respectively. These suggest significant heterogeneity among the effect sizes, and the random effects model is indeed more appropriate for analyzing these samples. Importantly, the objective SES-SWB r estimated was .109, with 95% CI [.102, .116], and the subjective SES-SWB r estimated was .209, with 95% CI [.200, .218]. To better control for overall Type I error with dependent effect sizes, the significance of both effect sizes was tested simultaneously by comparing a model with these observed effect sizes to a random-effects model with both effect sizes fixed at zero (Cheung, 2015a). This model comparison yielded a significant likelihood-ratio statistic, $\Delta\chi^2(df = 878) = 759.84$, $p < .001$, indicating that both objective SES and subjective SES r effect sizes were significantly different from zero. In other words, when simultaneously assessed, objective SES and subjective SES were also positively and significantly associated with SWB.

Using the same analysis, the following pairs of effect sizes were also concurrently estimated—the income-SWB r with ladder SES-SWB r, the income-SWB r, with perceived SES-SWB r, the education-SWB r with ladder SES-SWB r, as well as the education-SWB r with perceived SES-SWB r. The results of all of the analyses, with the test of homogeneity of effect sizes, I^2, and the test of significance of effect sizes are reported in Table 5. The significant likelihood ratio tests of all of the dependent effect sizes estimated within their random-effects models were significantly different from zero, $\Delta\chi^2(df = 2) > 200$. Again, regardless of the type of objective and subjective SES measures that were concur-

Table 4
Random-Effects Meta-Analysis of the SES-SWB Association (Nondependence Assumed)

SES measure	N	k	r	SD_r	ρ	SD_ρ	% Var	80% CV_{LL}	80% CV_{UL}	95% CI_{LL}	95% CI_{UL}
Objective SES	2762664	586	0.161	0.078	0.163	0.075	3.30	0.066	0.259	0.156	0.169
Income	2350643	335	0.225	0.095	0.234	0.087	1.42	0.123	0.345	0.224	0.245
Education	2623194	561	0.119	0.061	0.122	0.057	5.65	0.049	0.195	0.117	0.127
Subjective SES	625332	477	0.212	0.103	0.217	0.097	6.22	0.094	0.341	0.216	0.218
Ladder SES	523155	389	0.219	0.107	0.220	0.102	5.87	0.089	0.350	0.209	0.231
Perceived SES	423627	299	0.195	0.093	0.196	0.087	7.60	0.084	0.308	0.186	0.207

Note. N = sample size; SES = socioeconomic status; SWB = subjective well-being; k = number of correlations; r = meta-analytic effect size (uncorrected); SD_r = standard deviation of effect size (uncorrected); ρ = meta-analytic effect size (corrected); SD_ρ = standard deviation of effect size (corrected); % Var = percentage variance due to sampling error (< 75% indicates that the variance in estimates are unlikely due to artifacts and moderators should be evaluated); 80% CV_{LL} and CV_{UL} = 80% credibility interval; 95% CI_{LL} and CI_{UL} = 95% confidence interval.

Table 5
Random-Effects Multivariate Meta-Analysis of the SES-SWB Association (Dependence Assumed)

Dependent SES measures	r	95% CI	Test of homogeneity of effect sizes (Q)	I^2	Significant likelihood-ratio
Objective SES with subjective SES					
Objective SES	.109	[.102, .116]	$Q(df = 879) = 10287.53, p < .001$	0.87	$\Delta\chi^2(df = 2) = 759.84, p < .001$
Subjective SES	.209	[.200, .218]		0.934	
Income with ladder SES					
Income	.147	[.134, .161]	$Q(df = 281) = 3265.25, p < .001$	0.893	$\Delta\chi^2(df = 2) = 252.62, p < .001$
Ladder SES	.223	[.206, .240]		0.936	
Income with perceived SES					
Income	.149	[.136, .162]	$Q(df = 343) = 4092.71, p < .001$	0.8	$\Delta\chi^2(df = 2) = 504.12, p < .001$
Perceived SES	.194	[.183, .205]		0.922	
Education with ladder SES					
Education	.098	[.090, .106]	$Q(df = 500) = 5236.54, p < .001$	0.88	$\Delta\chi^2(df = 2) = 456.96, p < .001$
Ladder SES	.220	[.205, .236]		0.934	
Education with perceived SES					
Education	.098	[.089, .106]	$Q(df = 343) = 5403.27, p < .001$	0.867	$\Delta\chi^2(df = 2) = 481.34, p < .001$
Perceived SES	.194	[.183, .204]		0.922	

Note. CI = confidence interval; SES = socioeconomic status; SWB = subjective well-being.

rently examined, all of the SES measures were positively and significantly associated with SWB.

We note a significant difference in the objective SES effects sizes estimated from the Bare-Bones analysis ($r = .163$) and from the multivariate random-effects analysis ($r = .109$). This difference is, in part, because of the difference in samples that were included in both analyses. Specifically, only a subset of samples with both objective SES and subjective SES effect sizes reported from the same sample could be examined in the multivariate random-effects analysis because of the need to model sampling covariances of the dependent effect sizes. To account for the possibility that this subset of studies that examined both types of SES was inherently different from studies that examined only one type of SES, we tested if the effect sizes differed between studies that assessed both types of SES versus only one type of SES. No significant differences between effect sizes were observed in this comparison for the objective SES-SWB r, $Q(df = 1) = .041$, $p = .84$, as well as for the subjective SES-SWB r, $Q(df = 1) = .053$, $p = .82$. Therefore, the subset of studies examined using the multivariate analysis is comparable with the broader set of studies examined using the Bare-Bones analysis. In summary, the various measures of objective SES and subjective SES were positively and significantly associated with SWB, regardless of whether the dependence of their effect sizes were assumed.

Tests of Inclusion Bias

Several tests of inclusion bias were also conducted to ascertain potential threats to the validity of the overall meta-analytic effect sizes. First, the distribution of effect sizes in the samples was analyzed using the funnel plot. The funnel plot assesses whether the overall effect size estimate in the meta-analysis may be potentially inflated because of the lack of inclusion of studies where the null hypothesis was not rejected. To create the funnel plot, the standard errors were plotted in descending order against the obtained r effect sizes. A symmetric distribution of effect sizes in the funnel plot suggests that the effect size estimate is likely to be less biased. Figure 3 represents the distribution of all effect sizes with objective SES, while Figure 4 represents the distribution of all effect sizes with subjective SES across all samples. As most of the samples included were relatively large, most effect sizes were distributed around the upper regions across all of the funnel plots.

To formally test the funnel plot asymmetry, we conducted the rank correlation test, or Kendall's τ b, which computes a nonparametric correlation of effect sizes and their standard errors (Begg & Mazumdar, 1994). A significant correlation produced from this test would suggest the likelihood of inclusion bias in our samples. For all the effect sizes with objective SES, the rank correlation was $r = 0.12$, $p < .001$, suggesting a significant asymmetry in the distribution of objective SES effect sizes. For all the effect sizes with subjective SES, the rank correlation was $r = -.028$, $p = .36$, suggesting symmetry in the distribution of subjective SES effect sizes.

To supplement this inference with other formal tests, the trim-and-fill analysis was also conducted. 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 center" 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, the new estimated effect size for objective SES was .20, with 95% CI [.140, .260], $z = 6.55$, $p < .001$, and the new estimated effect size for subjective SES was .253, with 95% CI [.241, .264], $z = 42.77$, $p < .001$. It is worth noting that this newly estimated effect size after accounting for the missing studies was larger than the original and remained significantly different from zero, suggesting a possible underestimation of both objective SES and subjective SES effect sizes. Importantly, with or without the additional studies, the overall effect was still present.

Finally, sensitivity analyses were conducted to examine the potential impact of study characteristics, namely publication status and, the type of dataset on the effect size estimates. If the objective SES-SWB and subjective SES-SWB effect sizes are relatively unaffected by these study characteristics, it would suggest that the effect sizes obtained in this meta-analysis are robust to bias. For

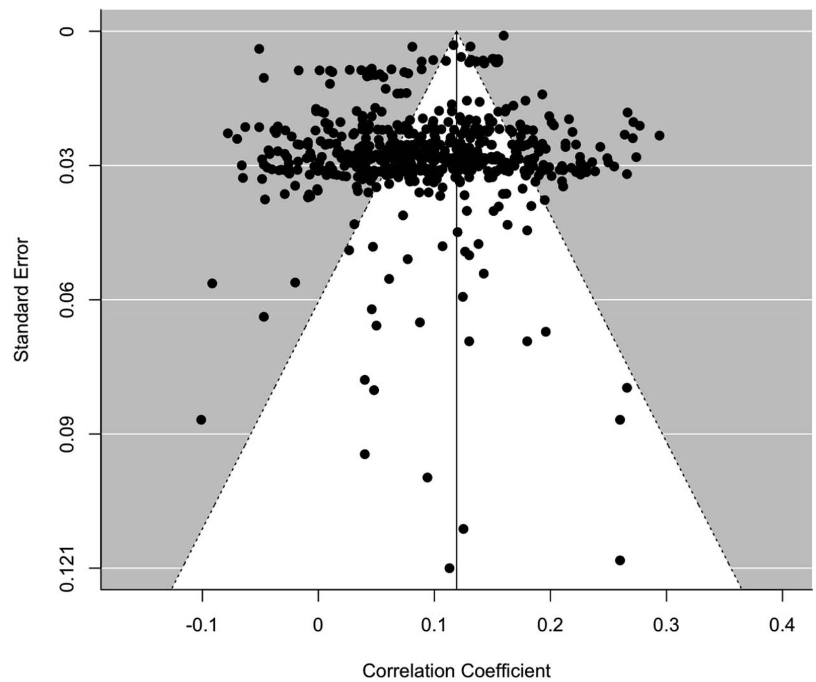


Figure 3. Funnel plot of effect sizes of the objective socioeconomic status-subjective well-being (SES-SWB) associations for all studies. Standard errors are plotted against the effect sizes.

publication status, we compared the effect sizes obtained published versus unpublished studies to determine if the current results may be affected by publication bias. With objective SES, the effect size obtained from unpublished studies (k = 162) was 0.110 with 95% CI [.097, .122], while the effect size obtained from published studies (k = 424) was 0.166 with 95% CI [0.159, 0.173]. This suggests the published objective SES effect sizes are larger than the unpublished objective SES effect sizes, although both are still signif-

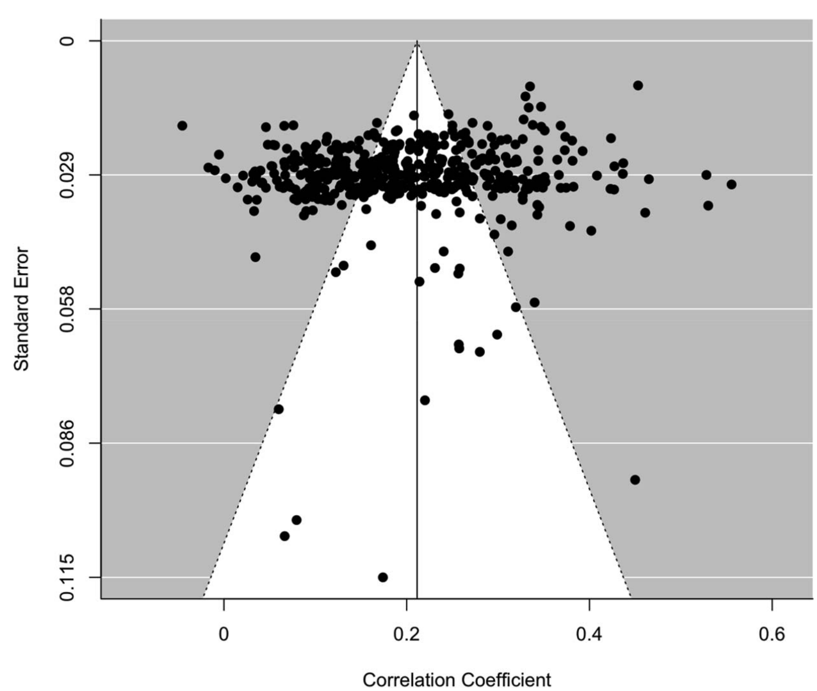


Figure 4. Funnel plot of effect sizes of the subjective socioeconomic status-subjective well-being (SES-SWB) associations for all studies. Standard errors are plotted against the effect sizes.

icantly different from zero. With subjective SES, the effect size obtained from unpublished studies ($k = 146$) was 0.220 with 95% CI [0.205, 0.235], while the effect size obtained from published studies ($k = 331$) was .207 with 95% CI [0.196, 0.219]. In this case, the overlapping 95% CIs suggested that the subjective SES effect size estimates were likely not affected by publication bias.

For the analysis with the type of dataset, we compared the effect sizes obtained from studies that used publicly available data sets (e.g., World Values Survey, GSS, ISSP, and MIDUS) versus studies that did not use publicly available data sets. With objective SES, the effect size obtained from studies that used publicly available data sets ($k = 472$) was .112 with 95% CI [.107, .118], while the effect size obtained from nonpublicly available data sets ($k = 114$) was .146 with 95% CI [.114, .178]. With subjective SES, the effect size obtained from studies that used publicly available data sets ($k = 435$) was 0.202 with 95% CI [.194, .212], while the effect size obtained from nonpublicly available data sets ($k = 42$) was .243 with 95% CI [.209, .277]. Again, within each measure, the 95% CIs overlapped, suggesting that the effect size estimates were not affected by the type of dataset. Taken together, results from all of the bias analyses indicate that the subjective SES effect sizes were robust to bias. However, objective SES effect sizes appeared to vary with publication status, although regardless of status, the effects were present.

Hypothesis 1: Is the Subjective SES-SWB Association Larger Than the Objective SES-SWB Association?

To test this hypothesis, the estimated objective SES-SWB and the subjective SES-SWB *r*s were compared along with their reported 95% CIs. Nonoverlapping 95% CIs between the effect sizes compared suggest a significant difference. This comparison was done in both sets of analyses where the nondependence and dependence of their effect sizes were assumed.

Nondependence of effect sizes assumed. The comparisons between the objective SES-SWB and the subjective SES-SWB *r*s, along with their reported 95% CIs, are presented in the forest plot in Figure 2. Accordingly, a few key observations can be made. First, as hypothesized, the overall subjective SES-SWB r of .217 was significantly larger than the overall objective SES-SWB r of .163. However, some nuances emerged when the effect sizes were examined separately by income and education for measures of objective SES, and by ladder SES and perceived SES for measures of subjective SES. Within measures of objective SES, the income-SWB r of 0.234 was significantly larger than the education-SWB r of 0.122. Within measures of subjective SES, the ladder SES-SWB r of .217 was also significantly larger than the perceived SES-SWB r of 0.196. When each of these objective SES and subjective SES effect sizes were compared, the following patterns were observed: while the education-SWB r remained significantly smaller than both the ladder SES-SWB r and perceived SES-SWB r as hypothesized, the income-SWB r did not differ significantly from the ladder SES-SWB r, and was even significantly larger than the perceived SES-SWB r. Therefore, in this analysis, our first hypothesis was supported only when objective SES was assessed with education, but not supported when objective SES was assessed with income.

Dependence of effect sizes assumed. A similar comparison was made between the objective SES-SWB and the subjective SES-SWB *r*s estimated in the multivariate SEM analyses that accounted for their dependence. From the effect sizes reported in Table 5, the subjective SES-SWB *r*s were consistently larger than the objective SES-SWB *r*s in all of the models, even when objective SES was assessed as income. Critically, in all of the comparisons, none of the 95% CIs overlapped, suggesting that the subjective SES-SWB *r*s were also significantly larger than the objective SES-SWB *r*s. Nonetheless, the size of differences varied depending on the type of objective SES measure. Specifically, the subjective SES-SWB *r*s were about twice as large as the education-SWB *r*s, while the difference between subjective SES-SWB *r*s and the income-SWB *r*s was reduced to about 1.3 times. Overall, the results in this analysis were consistent with the first hypothesis.

The role of common method variance. To examine the possible contribution of common method variance in explaining the larger subjective SES-SWB association, we estimated the subjective SES-SWB effect sizes controlling for their associations with variables linked to positive response bias or general "positivity," such as positive affect, optimism, and self-esteem (Podsakoff et al., 2003). The associations necessary for this analysis were available in a small subset of studies ($k = 12$). In these studies, the subjective SES-SWB r effect size was .310 with 95% CI [0.271, 0.348], the subjective SES-positivity r effect size was .164 with 95% CI [0.089, 0.240], and the SWB-positivity r effect size was .410 with 95% CI [0.332, 0.480]. After controlling for the associations with general positivity, the subjective SES-SWB r effect size decreased to .250, with 95% CI [.237, .262], although it was still significantly different from zero. In other words, the subjective SES-SWB appeared to be partially but not fully explained by positivity bias. Furthermore, this reduced subjective SES-SWB r estimate was still significantly larger than the objective SES-SWB r estimate from the Bare-Bones analysis. Nonetheless, we note that the number of cases used in this analysis is small, and there may be other constructs which subjective SES and SWB are strongly associated with that contribute to common method variance but were not assessed in these studies (Podsakoff et al., 2003). Therefore, this result should be interpreted with the limitations in mind.

Inferring causality from the SES-SWB association. Although there were significant differences observed in how strongly objective and subjective SES relate to SWB, these effects are still correlational, and do not necessarily suggest a stronger causal effect of subjective SES than objective SES on SWB. It is still plausible that people who were happier and more satisfied with life in general were more likely to inflate their subjective SES ratings but not their reports of income and educational attainment, which are factual and more immune to biases. Given this directionality issue, studies that examine these associations longitudinally provide stronger evidence for the association between the constructs.

In a subset of studies available that assessed the SES-SWB association longitudinally, we estimated their objective SES-SWB and subjective SES-SWB r effect sizes. For these studies, the objective SES-SWB r ($k = 63$) was 0.115, with 95% CI [0.104, 0.127], whereas the subjective SES-SWB r ($k = 20$) was 0.217, with 95% CI [0.164, 0.269]. In this analysis, the subjective SES-SWB r was still larger than the objective SES-SWB r, although given the relatively smaller number of longitudinal studies available for estimating the subjective SES-SWB r the effect sizes obtained in the current analyses should also be interpreted in the light of this limitation.

Hypothesis 2: Does Subjective SES Mediate the Objective SES-SWB Association?

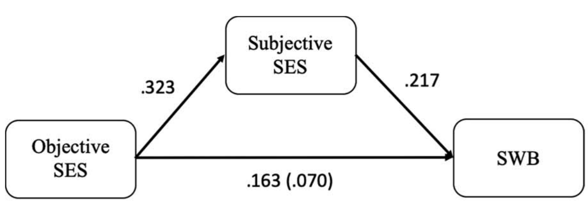
To test the possibility that the objective SES and SWB association is mediated by subjective SES, meta-analytic path analyses were conducted (Hagger et al., 2016). Three models as shown in Figure 5 were tested: The overall subjective SES mediating the objective SES-SWB path (Figure 5a), the ladder SES mediating the income-SWB and education-SWB paths (Figure 5b), and the perceived SES mediating the income-SWB and education-SWB paths (Figure 5c). Each path model was tested by first constructing a meta-analytic matrix of correlations among all the variables in the path model using the *r* effect sizes estimated earlier, and then using the matrix as input for the meta-analytic path analyses using the M*plus* Version 8 analysis package (Muthén & Muthén, 2012).

Following Hagger et al. (2016), the models were estimated using a maximum likelihood estimation method. CIs and fit indices were examined to evaluate the mediation models. The following measures of fit were examined to evaluate the model fit: Tucker-Lewis index (TLI), comparative fit index (CFI), root mean square error of approximation (RMSEA), and standardized root-mean-square residual (SRMR). A good fit typically produces TLI and CFI values of around .95 or more, RMSEA values of .06 or less, and SRMR values of .08 or less (Hu & Bentler, 1999).

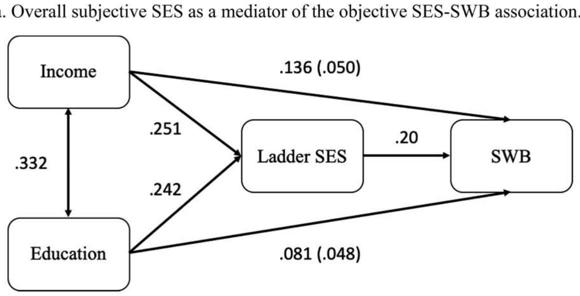
Overall subjective SES as mediator. For the model testing the overall subjective SES as a mediator of the objective SES-SWB relationship, path analyses revealed a significant direct effect of overall objective SES on overall subjective SES, $b = .323$ [.321, .325], $SE = .001$, $p < .001$, and a significant direct effect of subjective SES on SWB, $b = .217$ [.215, .219], $SE = .001$, $p < .001$. The indirect effect of objective SES on SWB mediated by subjective SES was also significant, $b = .070$ [.069, .071], $SE = .0001$, $p < .001$. The fit indices of this model produced the following fit values, TLI = .819, CFI = .94, RMSEA = .101, SRMR = .038, suggesting a marginal model fit.

Ladder SES as mediator. For the model testing the ladder SES as a mediator of the income-SWB and education-SWB relationship, path analyses revealed a significant direct effect of income on ladder SES, $b = .251$ [.247, .254], $SE = .002$, $p < .001$, a significant direct effect of education on ladder SES, $b = .242$ [.238, .245], $SE = .002$, $p < .001$, and a significant direct effect of ladder SES on SWB, $b = .200$ [.193, .201], $SE = .002$, $p < .001$. Critically, there was also a significant indirect effect of income on SWB mediated by ladder SES, $b = .050$ [.048, .051], $SE = .001$, $p < .001$, and a significant indirect effect of education on SWB mediated by ladder SES, $b = .048$ [.046, .049], $SE = .001$, $p < .001$. The fit indices of this model produced the following fit values, TLI = .934, CFI = .974, RMSEA = .054, SRMR = .023, suggesting a good model fit.

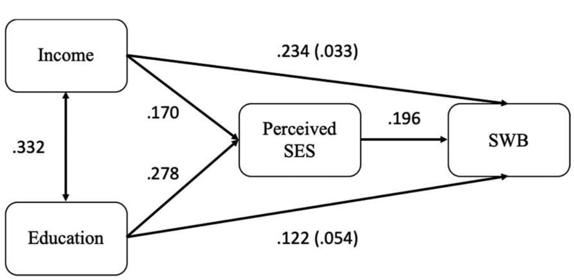
Perceived SES as mediator. For the model testing perceived SES as a mediator of the income-SWB and education-SWB relationship, path analyses revealed a significant direct effect of income on perceived SES, $b = .251$ [.247, .254], $SE = .002$, $p < .001$, a significant direct effect of education on perceived SES, $b = .242$ [.238, .245], $SE = .002$, $p < .001$, and a significant direct effect of perceived SES on SWB, $b = .220$ [.216, .224], $SE = .002$, $p < .001$. Once again, there was a significant indirect effect of income on SWB mediated by perceived SES, $b = .055$ [.054, .056], $SE = .001$, $p < .001$, and a significant indirect effect of education on SWB mediated by perceived SES, $b = .053$ [.052, .054], $SE = .001$, $p < .001$. However, the fit indices of this model produced the following fit values, TLI = .831, CFI = .577, RMSEA = .138, SRMR = .060, which suggested a fairly poor model fit. Based on these three models evaluated, there is some evidence that the relationship between objective SES and SWB is in part explained by subjective SES, particularly when it is assessed using the ladder SES.



a. Overall subjective SES as a mediator of the objective SES-SWB association.



b. Ladder SES as a mediator of the income-SWB and education-SWB association.



c. Perceived SES as a mediator of the income-SWB and education-SWB association.

Figure 5. Path analyses illustrating subjective socioeconomic status (SES) as a mediator of the objective SES and subjective well-being (SWB) association. All path estimates are significant, $p < .001$.

Moderators of the SES-SWB Effect Sizes

Two sets of moderator analyses were conducted to examine if the SES-SWB *r* effect sizes would vary as a function of variables linked to social comparison and other processes. As before, the first set of analyses assumed that the objective and subjective SES-SWB effect sizes were nondependent and tested the effect of moderators on each type of effect size using random effects metaregression. The second set of analyses accounted for the dependence of the objective and subjective SES-SWB effect sizes and tested the effect of moderators on both types of effect sizes simultaneously using mixed-effects multivariate analysis.

All moderators were examined as continuous variables to preserve the range of information available in the data and to control for Type-I error rates. Both sets of analyses tested if the slope of the moderators significantly predicted the objective SES-SWB and subjective SES-SWB effect sizes. All moderators were mean-centered. Table 6 presents the correlations between all of the moderators examined in the current samples. For each moderator, results from the metaregression are reported first, followed by the results from the mixed-effects multivariate analysis.

Wealth of countries. Based on Need Theory, the objective SES-SWB was predicted to be stronger in less wealthy countries. Consistent with this prediction, results from the metaregression revealed that the objective SES-SWB r significantly increased as country's wealth decreased, $b = -.011$, 95% CI $[-.018, -.004]$, $z = -2.95$, $p = .003$. The same patterns were observed when objective SES was assessed as income, $b = -.018$, 95% CI $[-.032, -.004]$, $z = -2.51$, $p = .012$, or education, $b = -.016$, 95% CI $[-.023, -.009]$, $z = -4.51$, $p < .001$. In the mixed-effects multivariate analysis, this similar pattern emerged for the education-SWB r when it was tested concurrently with the ladder SES, $b = -.017$, 95% CI $[-.026, -.009]$, $z = -2.28$, $p = .023$, or tested concurrently with perceived SES, $b = -.015$, 95% CI $[-.027, -.004]$, $z = -2.68$, $p = .007$. However, in this analysis, the income-SWB r did not vary significantly with the wealth of countries when tested concurrently with the ladder SES, $b = -.011$, 95% CI $[-.036, .015]$, $z = -0.82$, $p = .41$, and increased as country's wealth increased when tested concurrently with perceived SES, $b = .015$, 95% CI $[.0007, .030]$, $z = 1.97$, $p = .049$, contrary to prediction. Taken together, Need Theory was fully supported in the metaregression analyses, but only partially supported in the mixed-effects analysis with the education-SWB r.

Social comparison needs predicted that the subjective SES-SWB r should increase with increasing wealth of countries. In the metaregression analyses, subjective SES-SWB r did not vary with the wealth of countries, $b = -.005$, 95% CI $[-.015, .005]$, $z = -0.94$, $p = .35$, and neither did the ladder SES-SWB r, $b = -.003$, 95% CI $[-.015, .008]$, $z = -0.58$, $p = .56$. In addition, the perceived SES-SWB r unexpectedly decreased with higher wealth of countries, $b = -.017$, 95% CI $[-.028, -.006]$, $z = -3.00$, $p = .003$. In the mixed-effects multivariate analysis, while the ladder SES-SWB r did not increase significantly with the wealth of countries when tested concurrently with income, $b = .012$, 95% CI $[-.019, .043]$, $z = 0.78$, $p = .44$, it increased significantly when tested concurrently with education, $b = .027$, 95% CI $[.0008, .054]$, $z = 2.02$, $p = .043$, consistent with the prediction. On the other hand, perceived SES-SWB r showed unexpected significant decreases as wealth of countries increased, in both instances when it was tested concurrently with income, $b = -.015$, 95% CI $[-.027, -.004]$, $z = -2.68$, $p = .007$, and with education, $b = -.015$, 95% CI $[-.027, -.004]$, $z = -2.68$, $p = .007$. Overall, the prediction that comparison needs are prioritized in wealthier countries appeared to be supported only when subjective SES was assessed using the ladder SES and when tested concurrently with education.[1,2] The results from the mixed-effects analyses are presented in the graphs in Figure 6.

Cultural orientation. This analysis examined the competing hypotheses about whether the subjective SES-SWB association would increase with collectivism based on the social comparison perspective (Baldwin & Mussweiler, 2018), or decrease with collectivism based on normative standards perspective (Curhan et al., 2014). Lower scores indicated stronger collectivism and higher scores indicated stronger individualism. In the metaregression analyses, none of the subjective SES-SWB effect sizes varied by cultural orientation. In the mixed-effects multivariate analyses, only when tested concurrently with education, the ladder SES-SWB r decreased nonsignificantly with stronger collectivism, $b = .028$, 95% CI $[-.005, -.060]$, $z = 1.67$, $p = .095$. None of the other effect sizes examined concurrently with the income or education varied significantly with cultural orientation.[3] In other words, there was no strong support for either of the competing hypotheses.

The normative standards perspective also predicted that the objective SES-SWB association would increase with stronger collectivism. Metaregression analyses revealed that the income-SWB r did not vary by cultural orientation, $b = -.004$, 95% CI $[-.022, .013]$, $z = -0.46$, $p = .65$, although the education-SWB r did increase with stronger collectivism, $b = -.018$, 95% CI $[-.029, -.007]$, $z = -3.22$, $p = .001$, consistent with the prediction. In the mixed-effects multivariate analyses, the education-SWB r also increased with stronger collectivism when concurrently tested with ladder SES, $b = -.019$, 95% CI $[-.034, -.0042]$, $z = -2.50$, $p = .012$, but increased nonsignificantly when concurrently tested with perceived SES, $b = -.014$, 95% CI $[-.029, .001]$, $z = -1.81$, $p = .070$. On the other hand, the patterns with income-SWB r were mixed. When examined concurrently with ladder SES, the income-SWB r decreased nonsignificantly with stronger collectivism, $b = -.027$, 95% CI $[-.056, .0027]$, $z = -1.78$, $p = .075$. However, when examined concurrently with perceived SES, the income-SWB r decreased

[1] As another test of whether social comparison needs are stronger for SWB in richer countries, we examined if the wealth of countries moderated the mediating effect of subjective SES on the objective SES-SWB association. We conducted subgroup analyses by testing subjective SES as a mediator of objective SES-SWB at low GNI versus high GNI.

The subgroup analyses revealed a significant indirect effect of objective SES on SWB via subjective SES at low GNI, $b = .070$ [0.070, 0.072], SE = .0001, $p < .001$, with the following fit values, TLI = .952, CFI = .984, RMSEA = .052, SRMR = .019, suggesting a good model fit. Similarly, the indirect effect of objective SES on SWB via subjective SES at high GNI was also significant, $b = .064$ [0.065, 0.066], SE = .0001, $p < .001$, with the following fit values, TLI = .924, CFI = .975, RMSEA = .052, SRMR = .023, suggesting a slightly lower but still fairly good model fit. The indirect effect at low GNI was significantly larger than the indirect effect at high GNI, as suggested by the nonoverlapping confidence intervals of their estimates. In other words, the social comparison effect of objective SES was stronger in less wealthy countries, contrary to Easterlin's (1974) hypothesis.

[2] We also examined Easterlin's (1974) social comparison needs hypothesis among the rich at the level of the sample, by testing if subjective SES matters more for SWB above or below a certain threshold of objective SES. We applied a mean-max normalization on income and education level across samples where such information. Using metaregression, we tested if normalized income and normalized education would each moderate the subjective SES-SWB association, ladder SES-SWB association and perceived SES-SWB association. We found that only normalized income significantly moderated the ladder SES-SWB association ($k = 122$), $b = -0.65$, $SE = 0.31$, $z = -2.09$, $p = .037$, such that the ladder SES-SWB association decreased as income increased. In other words, at lower levels of income, relative SES matters more for SWB than at higher levels of income. Again, this was opposite to Easterlin's hypothesis, suggesting that social comparisons may matter more at lower levels of income.

[3] Given the strong association between cultural orientation and wealth of countries in the current studies, $r(373) = .56$, $p < .001$, we also tested the moderating effect of cultural orientation controlling for country wealth. This analysis did not change the pattern of results.

Table 6
Zero-Order Correlations Between Moderators

Moderator	Wealth of country	Cultural orientation	Income inequality (GINI)	Income inequality (90/10 ratio)	Income inequality (90/50 ratio)	Population density	Absolute social mobility	Relative social mobility
Wealth of country	1							
Cultural orientation	.56***	1						
Income inequality (GINI)	−.39***	−.36***	1					
Income inequality (90/10 ratio)	−.58***	−.40***	.84***	1				
Income inequality (90/50 ratio)	−.59***	−.35***	.90***	.91***	1			
Population density	.0039	−.26***	−.27***	−.037	−.010	1		
Absolute social mobility	.11*	−.15**	.31***	.31**	0.23*	−.17***	1	
Relative social mobility	.21***	.32***	−.33***	−0.1	−0.13	−.19***	.24***	1

Note. For cultural orientation, higher scores indicate stronger individualism.
* $p < .05$. ** $p < .01$. *** $p < .001$.

significantly with stronger collectivism, $b = .039$, 95% CI [.017, .061], $z = 3.47$, $p < .001$.

Taken together, the current analyses did not provide support for the social comparison hypothesis, but provided partial support for the normative standards perspective. Specifically, objective SES assessed as education appeared to matter more for SWB in more collectivistic than individualistic cultures. The results from the mixed-effects analyses are presented in the graphs in Figure 7.

Income inequality. Based on the social comparison account, the objective SES-SWB and subjective SES-SWB effect sizes were expected to increase with higher income inequality, assessed as the GINI, 90/10 ratio and 90/50 ratio. Using the GINI, the metaregression analysis revealed nonsignificant patterns with the overall objective SES-SWB r, $b = -.042$, 95% CI [−.087, .003], $z = -1.82$, $p = .069$. income-SWB r, $b = -.023$, 95% CI [−.098, .051], $z = -0.61$, $p = .54$, and education-SWB r, $b = -.017$, 95% CI [−.063, .029], $z = -0.72$, $p = .47$. However, the overall subjective SES-SWB r unexpectedly decreased as the GINI increased, $b = -.072$, 95% CI [−.136, −.007], $z = -2.17$, $p = .030$. The same pattern was also observed with the ladder SES-SWB r, $b = -.13$, 95% CI [−200, −.058], $z = -3.54$, $p < .001$, but not with perceived SES-SWB r, $b = -.034$, 95% CI [−.111, .044], $z = -0.86$, $p = .39$. These patterns were all contrary to prediction.

In the mixed-effects multivariate analysis, nonsignificant patterns were again observed for objective SES-SWB r tested concurrently with subjective SES-SWB r, $b = -.044$, 95% CI [−.093, .005], $z = -1.76$, $p = .078$, income-SWB r tested concurrently with ladder SES, $b = -.019$, 95% CI [−.110, .072], $z = -0.41$, $p = .68$, or concurrently with perceived SES, $b = -.012$, 95% CI [−.184, .161], $z = -0.14$, $p = .89$. The effect of GINI on the education-SWB r tested concurrently with ladder SES, $b = -.035$, 95% CI [−.088, .017], $z = -1.31$, $p = .19$, or concurrently with perceived SES, $b = -.034$, 95% CI [−.103, .036], $z = -0.95$, $p = .34$ were also nonsignificant. Similar to the metaregression analyses, the subjective SES-SWB r decreased as the GINI increased when tested concurrently with objective SES-SWB r, $b = -.108$, 95% CI [−.173, −.044], $z = -3.29$, $p < .001$. The same unexpected pattern was observed with perceived SES-SWB r concurrently examined with the income, $b = -.090$, 95% CI [−.170, −.011], $z = -2.23$, $p = .026$, and with education, $b = -.091$, 95% CI [−.170, −.012], $z = -2.25$, $p = .024$. The patterns for the ladder SES-SWB r were nonsignificant, both when examined concurrently with income, $b = -.027$, 95% CI [−.136, .081], $z = -0.49$, $p = .62$, and with education, $b = -.079$, 95% CI [−.018, .018], $z = -1.60$, $p = .11$. The results from the mixed-effects multivariate analyses are presented in the graphs in Figure 8.

With respect to the 90/10 and the 90/50 ratios, no significant moderating patterns were observed across the objective SES-SWB and subjective SES-SWB r effect sizes, as well as across the metaregression and mixed-effects multivariate analyses. In summary, the predictions for income inequality were not supported. Instead, when income inequality was assessed as the GINI, subjective SES appeared to matter less for SWB as income inequality increased—an unexpected pattern that appeared somewhat consistently.

Population density. Increased social comparison because of greater competition in higher density environments was expected to strengthen the objective SES-SWB and subjective SES-SWB effect sizes, with a stronger pattern observed with subjective SES. In the metaregression analyses, the objective SES-SWB r increased with higher population density, $b = .0066$, 95% CI [.0002, .012], $z = 2.69$, $p = .007$. The same pattern was also observed for the income-SWB r, $b = .0078$, 95% CI [.0004, .015], $z = 2.07$, $p = .038$, and the education-SWB r, $b = .0060$, 95% CI [.001, .011], $z = 2.37$, $p = .018$. In addition, the effect sizes also increased with higher population density for the subjective SES-SWB r, $b = .012$, 95% CI [.0046, .018], $z = 3.30$, $p < .001$, and the perceived SES-SWB r, $b = .013$, 95% CI [.0051, .021], $z = 3.20$, $p = .001$, although the pattern for the ladder SES-SWB r was nonsignificant, $b = .008$, 95% CI [−.005, .016], $z = 1.83$, $p = .067$. In addition, with the exception of the ladder SES-SWB r, the moderating patterns were stronger for the subjective SES-SWB effect sizes than the objective SES-SWB effect sizes. These patterns were largely consistent with predictions.

Results from the mixed-effects multivariate analyses were similar. The objective SES-SWB effect size examined concurrently with the subjective SES-SWB effect size increased with population density, $b = .008$, 95% CI [.003, .013], $z = 2.91$, $p = .004$. This was also the case for income-SWB r when concurrently examined with ladder SES, $b = .017$, 95% CI [.006, .028], $z = 2.47$, $p = .014$, for education-SWB r when concurrently examined

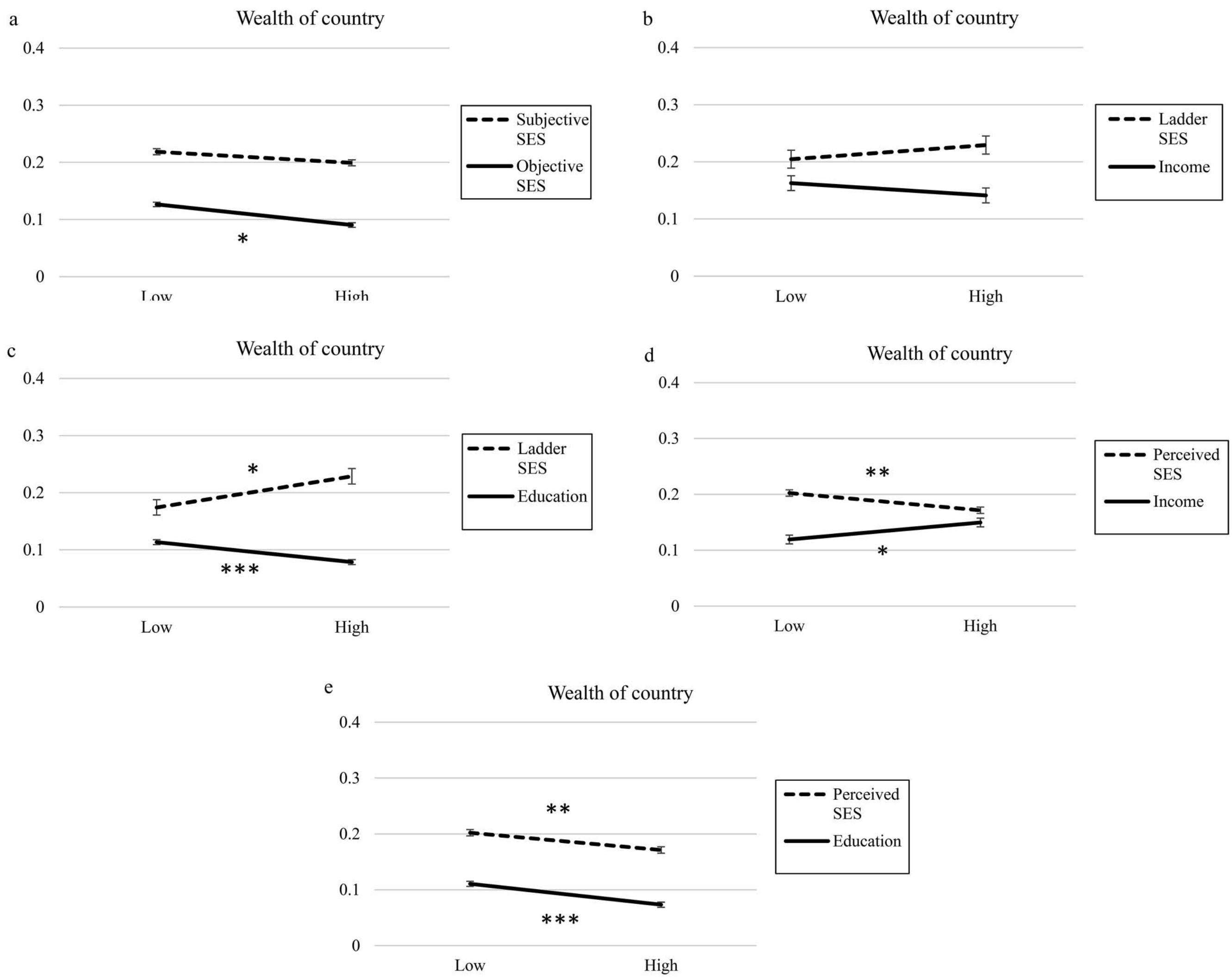


Figure 6. Wealth of countries as a moderator. The *y*-axis represents the effect sizes and the *x*-axis represents levels of the moderator. Error bars represent standard error of the estimate. $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

with ladder SES, $b = .007$, 95% CI [.001, .014], $z = 2.34$, $p = .019$, and for education when concurrently examined with perceived SES, $b = .010$, 95% CI [.003, .017], $z = 2.90$, $p = .004$. As well, perceived SES-SWB r also increased with population density when concurrently examined with income, $b = .011$, 95% CI [.003, .020], $z = 2.68$, $p = .007$, and with education, $b = .011$, 95% CI [.003, .020], $z = 2.67$, $p = .008$. However, the pattern with ladder SES-SWB r was nonsignificant, whether it was concurrently examined with income, $b = .004$, 95% CI [−.009, .018], $z = 0.63$, $p = .53$, or with education, $b = .003$, 95% CI [−.009, .015], $z = 0.53$, $p = .60$.

Overall, these findings mostly aligned with the notion that social comparison is more salient when population density high, which strengthens the objective SES-SWB and subjective SES-SWB effect sizes. A stronger pattern with the subjective SES-SWB effect size compared with the objective SES-SWB effect size was also observed in the metaregression analyses, although not in the mixed-effects multivariate analyses. The results from the mixed-effects multivariate analyses are presented in the graphs in Figure 9.

Social mobility. For absolute social mobility, both the objective SES-SWB r and the subjective SES-SWB r were expected to increase with higher absolute mobility. In the metaregression analyses, the objective SES-SWB r did not vary with absolute mobility, $b = -.009$, 95% CI [−.029, .012], $z = -0.81$, $p = .42$. This was also the case with the income-SWB r, $b = -.012$, 95% CI [−.040, .016], $z = -0.83$, $p = .41$, and the education-SWB r, $b = .0003$, 95% CI [−.022, .021], $z = -0.023$, $p = .98$. Similarly, nonsignificant patterns were also observed with the subjective SES-SWB r, $b = -.005$, 95% CI [−.039, .029], $z = -0.29$, $p = .77$, the ladder SES-SWB r, $b = -.014$, 95% CI [−.052, .024], $z = -0.72$, $p = .47$, and the perceived SES-SWB r, $b = -.002$, 95% CI [−.042, .039], $z = -0.91$, $p = .36$.

In the mixed-effects multivariate analyses, absolute mobility also did not moderate the objective SES-SWB r tested concur-

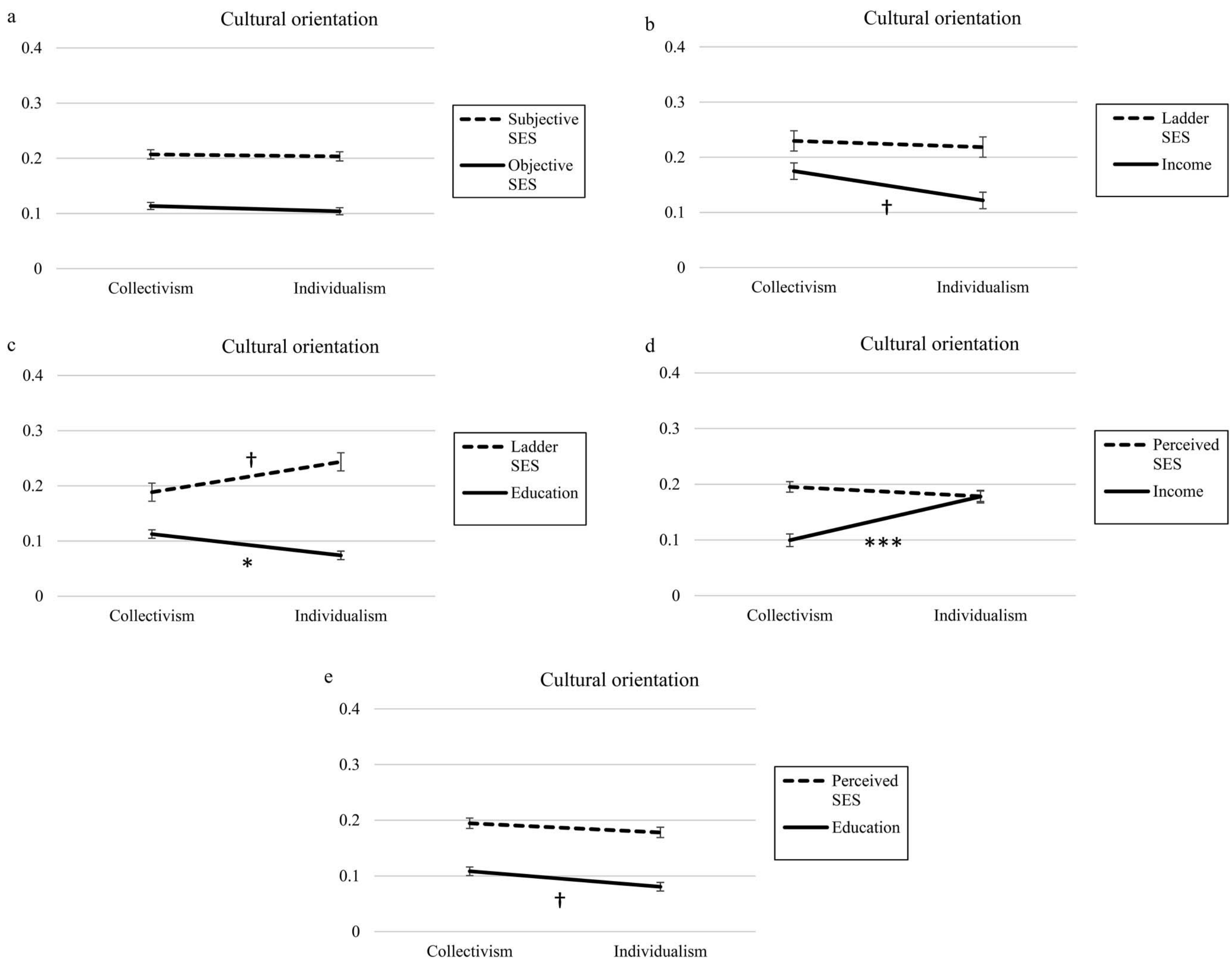


Figure 7. Cultural orientation as a moderator. The *y*-axis represents the effect sizes and the *x*-axis represents levels of the moderator. Error bars represent standard error of the estimate. † $p < .10$. * $p < .05$. *** $p < .001$.

rently with subjective SES, $b = -.010$, 95% CI [−.035, .016], $z = -0.74$, $p = .46$. The same was observed for income-SWB *r* tested concurrently with ladder SES, $b = -.029$, 95% CI [−.080, .022], $z = -1.13$, $p = .26$, and concurrently with perceived SES, $b = -.024$, 95% CI [−.084, .037], $z = -0.77$, $p = .44$, as well as education-SWB *r* tested concurrently with ladder SES, $b = -.008$, 95% CI [−.037, .020], $z = -0.57$, $p = .57$, and concurrently with perceived SES, $b = -.015$, 95% CI [−.047, .016], $z = -0.94$, $p = .35$. There were also nonsignificant patterns with the subjective SES-SWB *r* tested concurrently with objective SES, $b = -.012$, 95% CI [−.046, .023], $z = -0.66$, $p = .51$, the ladder SES-SWB *r* tested concurrently with income, $b = -.048$, 95% CI [−.109, .013], $z = -1.55$, $p = .12$, although in one exception, the ladder SES-SWB *r* tested concurrently with the education-SWB *r* decreased as absolute social mobility increased, $b = -.064$, 95% CI [−.117, −.011], $z = -2.35$, $p = .019$. In other words, with greater upward mobility, subjective SES mattered less for SWB. Absolute mobility also did not moderate the perceived SES-SWB *r* tested concurrently with income, $b = -.003$, 95% CI [−.044, .037], $z = -0.15$, $p = .88$, and concurrently with education, $b = -.003$, 95% CI [−.043, .038], $z = -0.14$, $p = .89$. Overall, there was no support for the moderating role of absolute social mobility. The results from the mixed-effects multivariate analyses are presented in the graphs in Figure 10.

For relative social mobility, the prediction was that the objective SES-SWB and subjective SES-SWB *r* effect sizes should increase as relative social mobility decreases. For the objective SES-SWB *r* effect sizes, the metaregression analyses revealed patterns largely consistent with the prediction. Specifically, the objective SES-SWB *r* strengthened as relative social mobility decreased, $b = -.028$, 95% CI [−.046, .011], $z = -3.17$, $p = .002$. A similar nonsignificant pattern was observed for income-SWB *r*, $b = -.029$, 95% CI [−.058, .001], $z = -1.89$, $p = .059$, and a significant pattern observed for the education-SWB *r*, $b = -.036$, 95% CI [−.054, .018], $z = -2.35$, $p = .019$. However, none of the subjective SES-SWB effect sizes varied with relative social mobility, whether it was the subjective SES-SWB *r*, $b = .012$, 95% CI [−.013, .037], $z = 0.92$, $p = .36$, the ladder SES-SWB

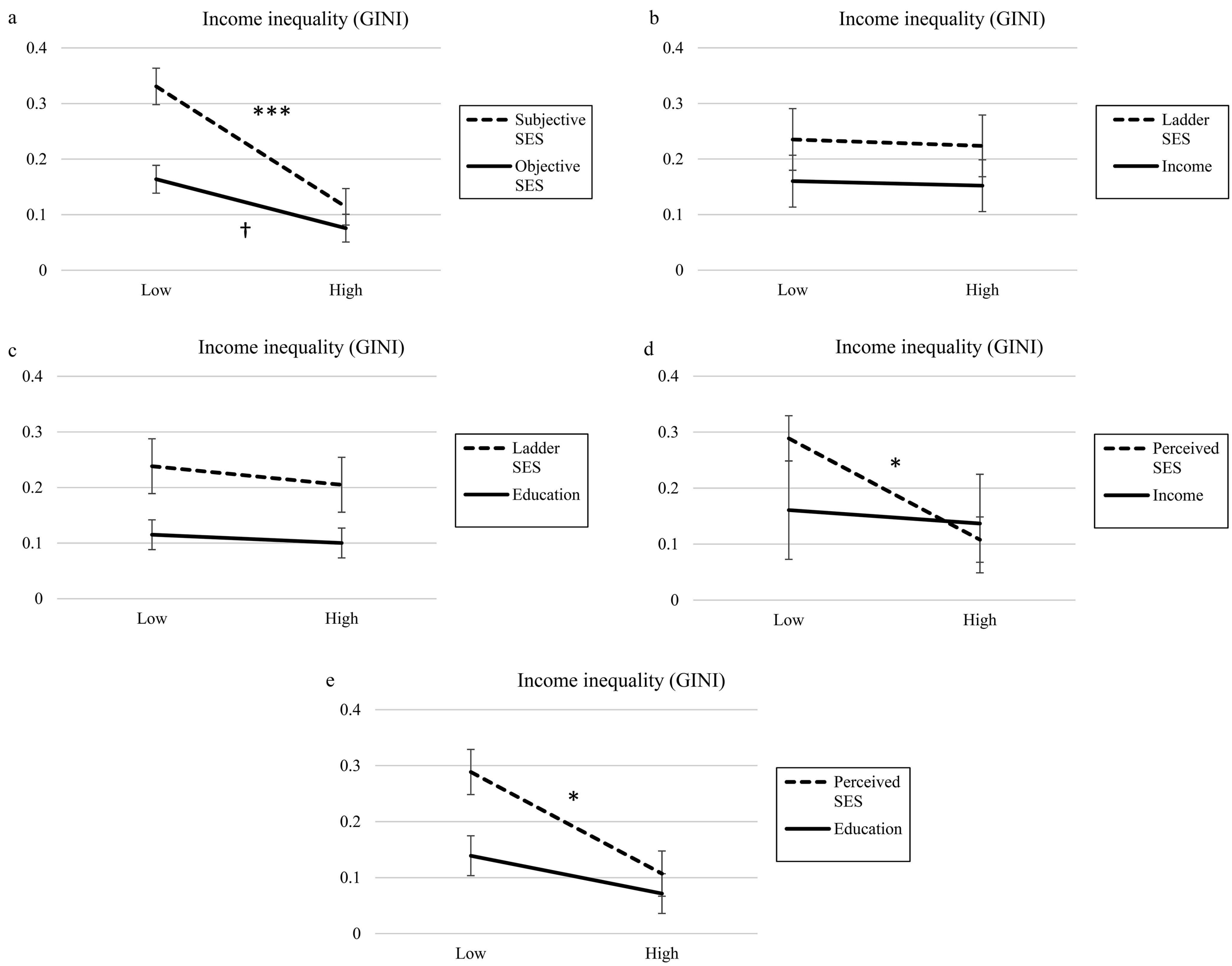


Figure 8. Income inequality (GINI) as a moderator. The *y*-axis represents the effect sizes and the *x*-axis represents levels of the moderator. Error bars represent standard error of the estimate. † $p < .10$. * $p < .05$. *** $p < .001$.

r, $b = .013$, 95% CI [−.015, .041], $z = 0.93$, $p = .35$, or the perceived SES-SWB *r*, $b = .007$, 95% CI [−.022, .037], $z = 0.49$, $p = .62$.

Results were largely similar in the mixed-effects analysis. The objective SES-SWB *r* concurrently assessed with the subjective SES strengthened as relative social mobility decreased, $b = -.026$, 95% CI [−.045, −.007], $z = -2.73$, $p = .006$, as did the education-SWB *r* assessed concurrently with the ladder SES, $b = -.033$, 95% CI [−.053, −.012], $z = -3.14$, $p = .002$, or assessed concurrently with perceived SES *r*, $b = -.034$, 95% CI [−.057, −.012], $z = -2.99$, $p = .003$. The income-SWB *r*, however, did not vary with relative social mobility, whether it was assessed concurrently with the ladder SES, $b = -.020$, 95% CI [−.063, .022], $z = -0.95$, $p = .34$, or with perceived SES, $b = -.035$, 95% CI [−.081, .012], $z = -1.46$, $p = .14$. As well, none of the subjective SES-SWB effect sizes examined concurrently with the objective SES-SWB effect sizes varied with relative social mobility. This null pattern held across subjective SES-SWB *r* examined concurrently with objective SES, $b = .010$, 95% CI [−.016, .035], $z = 0.75$, $p = .45$. Similar null patterns were observed for the ladder SES-SWB *r* examined concurrently with income, $b = .006$, 95% CI [−.045, .058], $z = 0.25$, $p = .80$, and with education, $b = .018$, 95% CI [−.026, .062], $z = 0.82$, $p = .41$, as well as perceived SES-SWB *r* examined concurrently with income, $b = .004$, 95% CI [−.026, .033], $z = 0.26$, $p = .79$, and with education, $b = .004$, 95% CI [−.025, .034], $z = 0.28$, $p = .78$. The results from the mixed-effects multivariate analyses are presented in the graphs in Figure 11.

In summary, absolute social mobility had little influence on both the objective SES-SWB and subjective SES-SWB effect sizes. Nonetheless, relative social mobility moderated the objective SES-SWB effect size as predicted, but not the subjective SES-SWB effect size. In other words, there is some preliminary support for the idea that objective SES is a more stable predictor of SWB under low relative mobility than under high relative mobility.

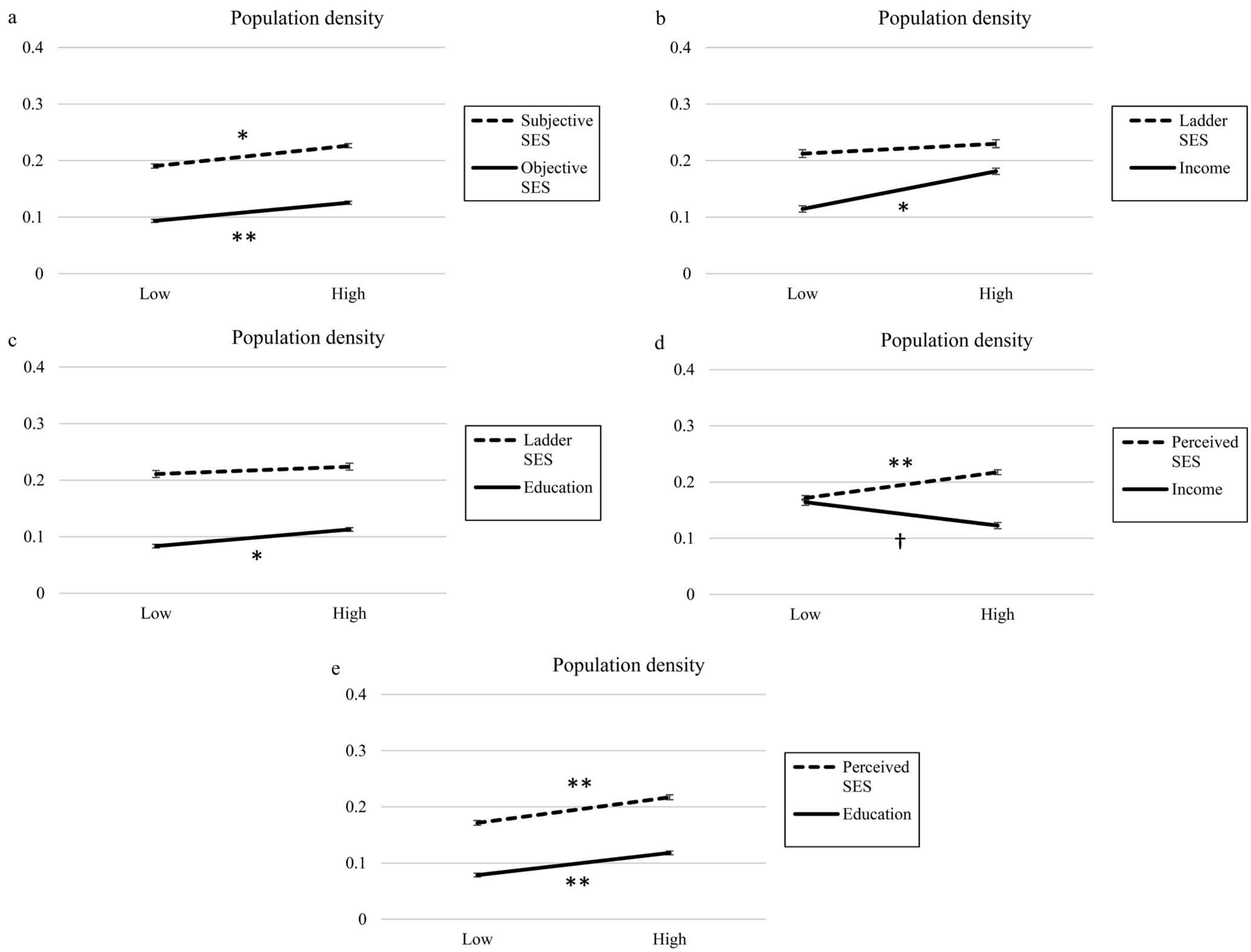


Figure 9. Population density as a moderator. The *y*-axis represents the effect sizes and the *x*-axis represents levels of the moderator. Error bars represent standard error of the estimate. † $p < .10$. * $p < .05$. ** $p < .01$.

The full results of the moderator analyses using random effects metaregression are presented in Table 7, and the results from the mixed-effects multivariate analyses are presented in Table 8. A summary of the moderation patterns observed combined across both sets of analyses are also presented in Table 9.

Experimental Manipulations of Subjective Ladder SES Ratings

Although we found earlier that the subjective SES-SWB association remained significant after controlling for positivity bias, we noted that the analysis did not account for other possible top-down influences. To provide another source of evidence that social comparative processes are involved in subjective SES assessments, we drew on experimental work that have manipulated subjective SES perceptions directly by inducing social comparison or other psychological states. We conducted another set of review on these studies that affected subjective SES judgments using different manipulations, focusing on the ladder SES ratings as the bulk of the experimental works have been on this measure.

We conducted a literature search on PsycINFO and Google Scholar using the search terms “subjective social status,” “MacArthur,” “ladder,” “experiment,” and “manipulation.” The search yielded 998 search results. A review of the abstracts and method section of empirical articles narrowed the results to 29 relevant articles. We further inspected the articles for data required for effect size calculation (i.e., sample size, means, standard deviations, and test statistics) and contacted authors via e-mail if any required data were not reported in the articles. Eventually, this resulted in 22 articles with usable data. The final sample consisted of 26 studies or independent samples, with 51 effect sizes extracted. Table 10 presents the studies included and their effect sizes.

Most of the studies reviewed utilized the social comparison manipulation ($k = 21$) to shift ladder ratings. In particular, the most common comparison manipulation used was the social ladder comparison, which instructed participants to picture where they stood on the MacArthur ladder by comparing themselves to people at the very bottom or very top of the ladder to elicit high or low

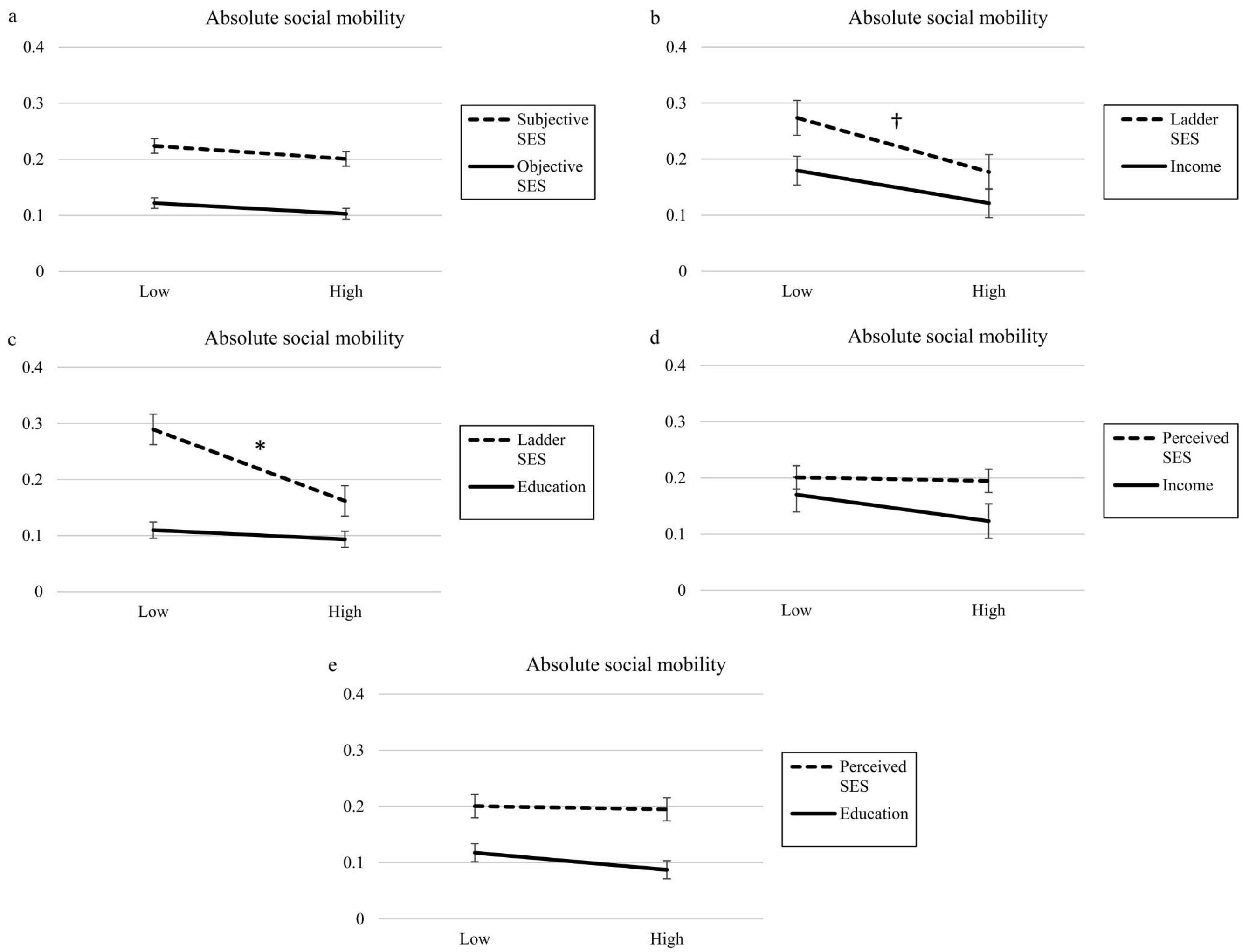


Figure 10. Absolute social mobility as a moderator. The *y*-axis represents the effect sizes and the *x*-axis represents levels of the moderator. Error bars represent standard error of the estimate. † $p < .10$. * $p < .05$.

relative SES, respectively (e.g., Kraus, Piff, & Keltner, 2009). Two studies induced comparison using a feedback paradigm that informed participants where they stood relative to other participants based on their performance on a prior task. These enabled us to directly examine if induced social comparisons influence ladder SES judgments. Among the very limited number of studies available that examined other ways of shifting the ladder judgments, three studies used money primes. Only one study used a negative mood prime, so no meta-analytic effect size was estimated for this manipulation.

The effect size examined here was the standardized mean difference or Cohen's *d*, which was computed by subtracting the mean of the low relative SES group or the control group from the mean of the high relative SES group. If a study only had a low relative SES group and a control group, *d* was computed by subtracting the mean of the low relative SES group from the control group. As such, a positive *d* would indicate that the manipulation meant to induce higher relative SES produced a higher rating on the ladder SES measure than the manipulation meant to induce a lower relative SES. The effect size estimates and tests of homogeneity were conducted using a random-effects model with restricted maximum likelihood estimation. All analyses were conducted in R using metafor (Viechtbauer, 2010).

Social comparison manipulation. Experimentally activating status comparisons with those at the very top and those at the very bottom was found to significantly shift participants' ladder ratings in the expected direction (low relative SES vs. high relative SES; $k = 19$), $d = .425$, 95% CI [.288, .561], $z = 6.09$, $p < .001$. However, with respect to a control condition where comparisons were not specifically induced, ladder ratings did not shift significantly when status comparisons with those at the very top (low relative SES vs. control; $k = 4$), $d = -.124$ [−0.307, 0.059], or those at the very bottom (high relative SES vs. control; $k = 2$), $d = .011$ [−0.229, 0.250], were specifically activated. It should be noted, however, that these findings with respect to controls were based on an extremely small number of cases as most studies did not use a control group.

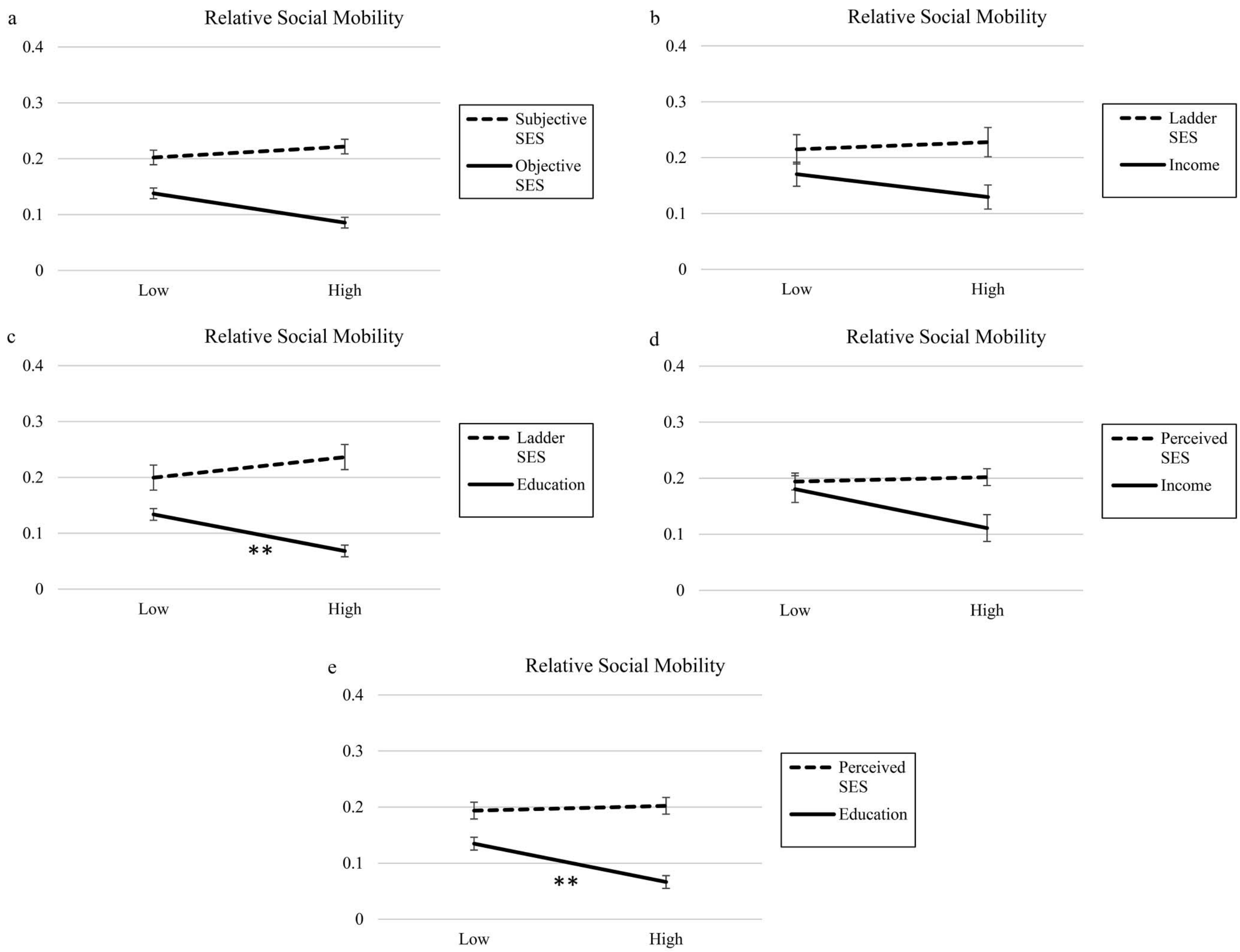


Figure 11. Relative social mobility as a moderator. The *y*-axis represents the effect sizes and the *x*-axis represents levels of the moderator. Error bars represent standard error of the estimate. ** $p < .01$.

We conducted bias tests to evaluate potential threats to the validity of the estimated effect sizes from the subset of studies that manipulated comparisons to the very top and very bottom, without a control group ($k = 19$). A funnel plot of the standard errors in descending order against the effect sizes are depicted in Figure 12. To test for funnel plot asymmetry, we conducted the Kendall's tau rank correlation, $r = -.076$, $p = .68$, which was nonsignificant, suggesting that inclusion bias is unlikely. Additionally, a trim-and-fill analysis estimated a new effect size of $d = .323$, 95% CI [.197, .460], $z = 4.88$, $p < .001$. Although this effect size was attenuated, it remained significantly different from zero. In other words, with or without missing studies, the overall effect of this social ladder manipulation was still present.

We also conducted a sensitivity analysis to examine the robustness of effect sizes to differences in study characteristics. Because only two of the 19 cases were unpublished, we could not reliably examine differences between published and unpublished effect sizes and, therefore, cannot definitively rule out publication bias. Nonetheless, we examined whether the effect sizes differed by studies published by the original lab group that created the social ladder comparison manipulation versus studies published by other lab groups. The effect size obtained from studies published by the original lab ($k = 8$) was .507, 95% CI [.385, .629], $z = 8.14$, $p <$ 001, while the effect size obtained from studies published by other labs ($k = 11$) was .354, 95% CI [.125, .583], $z = 3.03$, $p = .003$. Although the effect size estimated from the original lab was larger compared with the other labs, the overlapping 95% CIs of both estimates suggested that the effect size estimates did not differ significantly by lab groups. Taken together with the other bias test results, the effect sizes obtained for this particular social ladder manipulation appeared relatively robust.

Money prime. Based on the small number of samples, money primes that induced perceptions of scarcity versus abundance of money did not significantly shift ladder ratings ($k = 4$), $d = .029$, 95% CI [−.084, .142], $z = 0.50$, $p = .62$. However, money primes that induced scarcity relative to a neutral control did significantly shift ladder ratings ($k = 4$), $d = -.169$, 95% CI [−.303, −.034], $z = -2.45$, $p = .014$. Money primes that induced abundance

Table 7
Moderators of the Objective and Subjective SES-SWB Associations Using Random Effects Metaregression (Nondependence Assumed)

Moderator	SES measure	*k*	Estimate	*SE*	*z* value	95% CI_{LL}	95% CI_{UL}
Wealth of country	Objective SES	489	$-.011^{**}$	.0036	−2.95	−.018	−.004
	Income	267	$-.018^{*}$	.0072	−2.51	−.032	−.004
	Education	472	$-.016^{***}$	.0036	−4.51	−.023	−.009
	Subjective SES	412	−.005	.0051	−0.94	−.015	.005
	Ladder SES	350	−.003	.0058	−0.58	−.015	.008
	Perceived SES	256	$-.017^{**}$	.0056	−3.00	−.028	−.006
Cultural orientation	Objective SES	520	−.0032	.0055	−0.58	−.014	.008
	Income	313	−.004	.0089	−0.46	−.022	.013
	Education	498	$-.018^{**}$	.0057	−3.22	−.029	−.007
	Subjective SES	422	−.0053	.0082	−0.64	−.021	.011
	Ladder SES	340	.0067	.0098	0.68	−.013	.026
	Perceived SES	253	−.013	.0093	−1.39	−.031	.005
Income inequality (GINI)	Objective SES	234	$-.042^{\dagger}$	.023	−1.82	−.087	.003
	Income	142	−.023	.038	−0.61	−.098	.051
	Education	227	−.017	.024	−0.72	−.063	.029
	Subjective SES	195	$-.072^{*}$	.033	−2.17	−.136	−.007
	Ladder SES	171	$-.13^{***}$	.036	−3.54	−.200	−.058
	Perceived SES	100	−.034	.040	−0.86	−.111	.044
Income inequality (90/10 ratio)	Objective SES	87	−.027	.023	−1.18	−.073	.018
	Income	64	−.015	.032	−0.46	−.077	.048
	Education	86	−.017	.024	−0.71	−.063	.029
	Subjective SES	68	.014	.030	0.45	−.045	.072
	Ladder SES	67	.013	.031	0.40	−.048	.073
	Perceived SES	22	−.050	.036	−1.41	−.121	.020
Income inequality (90/50 ratio)	Objective SES	89	−.042	.049	−0.86	−.137	.054
	Income	65	.031	.073	0.43	−.112	.174
	Education	88	−.028	.049	0.57	−.124	.069
	Subjective SES	68	.017	.063	0.28	−.106	0.141
	Ladder SES	70	.014	.065	0.22	−.113	.142
	Perceived SES	23	−.059	.067	−0.89	−.190	.071
Population density	Objective SES	533	$.0066^{**}$	.0025	2.69	.0002	.012
	Income	297	$.0078^{*}$	.0038	2.07	.0004	.015
	Education	514	$.0060^{*}$	.0025	2.37	.0010	.011
	Subjective SES	457	$.012^{***}$	.004	3.30	.0046	.018
	Ladder SES	375	$.0076^{\dagger}$	.0041	1.83	−.0005	.016
	Perceived SES	289	$.013^{**}$	.0041	3.20	.0051	.021
Absolute social mobility	Objective SES	458	−.0085	.011	−0.81	−.029	.012
	Income	265	−.012	.014	−0.83	−.040	.016
	Education	445	.0003	.001	−.023	−.022	.021
	Subjective SES	391	−.005	.017	−0.29	−.039	.029
	Ladder SES	330	−.014	.019	−0.72	−.052	.024
	Perceived SES	235	−.002	.021	−0.91	−.042	.039
Relative social mobility	Objective SES	458	$-.028^{**}$	.009	−3.17	−.046	.011
	Income	265	$-.029^{\dagger}$	.015	−1.89	−.058	.001
	Education	445	$-.036^{***}$	.009	−3.86	−.054	.018
	Subjective SES	391	.012	.013	0.92	−.013	.037
	Ladder SES	330	.013	.014	0.93	−.015	.041
	Perceived SES	235	.007	.015	0.49	−.022	.037

Note. CI = confidence interval; SES = socioeconomic status; SWB = subjective well-being. Estimates indicate the influence of the moderator on the effect sizes with each SES measure. *z* value tests the null hypothesis that the parameter is zero in the population.
$^{\dagger} p < .10$. $^{*} p < .05$. $^{**} p < .01$. $^{***} p < .001$.

Table 8
Moderators of Objective and Subjective SES-SWB Associations Using Mixed-Effects Multivariate Meta-Analysis (Dependence Assumed)

Moderator	Dependent SES measures	k	Estimate	SE	z value	95% CI_{LL}	95% CI_{UL}
Wealth of country	Objective SES with subjective SES	386					
	Objective SES		−.009*	.004	−2.28	−.017	−.0013
	Subjective SES		−.005	.005	−0.94	−.015	.005
	Income with ladder SES	132					
	Income		−.011	.013	−0.82	−.036	.015
	Ladder SES		.012	.016	0.78	−.019	.043
	Income with perceived SES	48					
	Income		.015*	.008	1.97	.0007	.030
	Perceived SES		−.015**	.006	−2.68	−.027	−.004
	Education with ladder SES	335					
	Education		−.017***	.004	−4.07	−.026	−.009
	Ladder SES		.027*	.013	2.02	.0008	.054
	Education with perceived SES	237					
	Education		−.019***	.005	−4.06	−.028	−.010
	Perceived SES		−.015**	.006	−2.68	−.027	−.004
Cultural orientation	Objective SES with subjective SES	380					
	Objective SES		−.004	.006	−0.75	−.017	.0077
	Subjective SES		−.002	.008	−0.22	−.018	.014
	Income with ladder SES	135					
	Income		−.027†	.015	−1.78	−.056	.0027
	Ladder SES		−.006	.018	−0.31	−.042	.030
	Income with perceived SES	62					
	Income		.039***	.011	3.47	.017	.061
	Perceived SES		−.008	.009	−0.90	−.027	.010
	Education with ladder SES	313					
	Education		−.019*	.008	−2.50	−.034	−.0042
	Ladder SES		.028†	.016	1.67	−.005	.060
	Education with perceived SES	227					
	Education		−.014†	.008	−1.81	−.029	.001
	Perceived SES		−.008	.009	−0.88	−.027	.010
Income inequality (GINI)	Objective SES with subjective SES	177					
	Objective SES		−.044†	.025	−1.76	−.093	.005
	Subjective SES		−.108***	.033	−3.29	−.173	−.044
	Income with ladder SES	81					
	Income		−.019	.047	−0.41	−.110	.072
	Ladder SES		−.027	.055	−0.49	−.136	.081
	Income with perceived SES	14					
	Income		−.012	.088	−0.14	−.184	.161
	Perceived SES		−.090*	.041	−2.23	−.170	−.011
	Education with ladder SES	162					
	Education		−.035	.027	−1.31	−.088	.017
	Ladder SES		−.079†	.049	−1.60	−.018	.018
	Education with perceived SES	87					
	Education		−.034	.035	−0.95	−.103	.036
	Perceived SES		−.091*	.040	−2.25	−.170	−.012
Income inequality (90/10 ratio)	Objective SES with subjective SES	69					
	Objective SES		−.023	.025	−0.93	−.073	.026
	Subjective SES		.014	.030	0.47	−.044	.072
	Income with ladder SES	45					
	Income		−.008	.035	−0.22	−.077	.061
	Ladder SES		.060	.038	1.58	−.015	.134
	Income with perceived SES	1					
	Income		–	–	–	–	–
	Perceived SES		–	–	–	–	–
	Education with ladder SES	67					
	Education		−.011	.024	−0.44	−.058	.037
	Ladder SES		.036	.036	1.00	−.034	.107
	Education with perceived SES	22					
	Education		−.061	.042	−1.45	−.143	.022
	Perceived SES		−.052	.034	−1.53	−.119	.015
Income inequality (90/50 ratio)	Objective SES with subjective SES	69					

(*table continues*)

Table 8 (*continued*)

Moderator	Dependent SES measures	k	Estimate	SE	z value	95% CI_{LL}	95% CI_{UL}
	Objective SES		−.027	.053	−0.50	−.130	.077
	Subjective SES		.013	.062	0.21	−.108	.135
	Income with ladder SES	45					
	Income		.071	.082	0.87	−.089	.231
	Ladder SES		.143	.088	1.63	−.029	.315
	Income with perceived SES	1					
	Income		–	–	–	–	–
	Perceived SES		–	–	–	–	–
	Education with ladder SES	67					
	Education		−.008	.051	−0.16	−.107	.091
	Ladder SES		.060	.083	0.72	−.102	.222
	Education with perceived SES	22					
	Education		−.100	.074	−1.34	−.246	.046
	Perceived SES		−.063	.064	−1.00	−.188	.061
Population density	Objective SES with subjective SES	417					
	Objective SES		.008**	.003	2.91	.003	.013
	Subjective SES		.009*	.004	2.47	.002	.016
	Income with ladder SES	133					
	Income		.017**	.005	3.00	.006	.028
	Ladder SES		.004	.007	0.63	−.009	.018
	Income with perceived SES	65					
	Income		−.010†	.006	−1.88	−.021	.0004
	Perceived SES		.011**	.004	2.68	.003	.020
	Education with ladder SES	348					
	Education		.007*	.003	2.34	.001	.014
	Ladder SES		.003	.006	0.53	−.009	.015
	Education with perceived SES	225					
	Education		.010**	.004	2.90	.003	.017
	Perceived SES		.011**	.004	2.67	.003	.020
Absolute social mobility	Objective SES with subjective SES	366					
	Objective SES		−.010	.013	−0.74	−.035	.016
	Subjective SES		−.012	.018	−0.66	−.046	.023
	Income with ladder SES	129					
	Income		−.029	.026	−1.13	−.080	.022
	Ladder SES		−.048	.031	−1.55	−.109	.013
	Income with perceived SES	53					
	Income		−.024	.031	−0.77	−.084	.037
	Perceived SES		−.003	.021	−0.15	−.044	.037
	Education with ladder SES	310					
	Education		−.008	.014	−0.57	−.037	.020
	Ladder SES		−.064*	.027	−2.35	−.117	−.011
	Education with perceived SES	221					
	Education		−.015	.016	−0.94	−.047	.016
	Perceived SES		−.003	.020	−0.14	−.043	.038
Relative social mobility	Objective SES with subjective SES	366					
	Objective SES		−.026**	.010	−2.73	−.045	−.007
	Subjective SES		.010	.013	0.75	−.016	.035
	Income with ladder SES	129					
	Income		−.020	.022	−0.95	−.063	.022
	Ladder SES		.006	.026	0.25	−.045	.058
	Income with perceived SES	53					
	Income		−.035	.024	−1.46	−.081	.012
	Perceived SES		.004	.015	0.26	−.026	.033
	Education with ladder SES	310					
	Education		−.033**	.010	−3.14	−.053	−.012
	Ladder SES		.018	.022	0.82	−.026	.062
	Education with perceived SES	221					
	Education		−.034**	.011	−2.99	−.057	−.012
	Perceived SES		.004	.015	0.28	−.025	.034

Note. CI = confidence interval; SES = socioeconomic status; SWB = subjective well-being. Dependent SES measures indicate the objective SES-SWB and subjective SES-SWB effect sizes examined concurrently within the sample. Estimates indicate the influence of the moderator on each effect size tested concurrently. z value tests the null hypothesis that the parameter is zero in the population.
† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 9
Summary of Findings Across Both Types of Moderator Analyses (Nondependence and Dependence Assumed)

Moderator	Objective SES-SWB	Income-SWB	Education-SWB	Subjective SES-SWB	Ladder SES-SWB	Perceived SES-SWB
Wealth of country	negative	mixed	negative	0	mixed	negative
Cultural orientation	0	mixed	negative	0	mixed	0
Inequality (GINI)	negative	0	0	negative	mixed	mixed
Inequality (90/10 ratio)	0	0	0	0	0	0
Inequality (90/50 ratio)	0	0	0	0	0	0
Population density	positive	positive	positive	positive	mixed	positive
Absolute social mobility	0	0	0	0	mixed	0
Relative social mobility	negative	mixed	negative	0	0	0

Note. SES = socioeconomic status; SWB = subjective well-being. Positive indicates that the effect size increased with higher levels of the moderator across both types of analysis. Negative indicates that the effect size decreased with higher levels of the moderator across both types of analysis. Mixed indicates that the moderating patterns differed by the type of analysis. Zero (0) indicates that the effect size did not vary with levels of the moderator in all of the analyses.

relative to a neutral control also significantly shifted ladder ratings, but in an opposite and unexpected direction (k = 15), $d = -.089$, 95% CI [−.149, −.029], $z = -2.91$, $p = .004$.

Although meta-analytic effect size estimation was not possible for the single study that used a negative mood prime (Kraus et al., 2013), the effect sizes estimated within the study revealed that none of the negative mood inductions significantly affected the ladder SES ratings: sadness versus shame induction, $d = .0053$ [−.272, .283]; neutral versus shame induction, $d = .0263$ [−.251, .304]; neutral versus sadness induction, $d = .0221$ [−.255, .299]. Overall, these findings provide some evidence that the ladder SES ratings are, in part, influenced by social comparison, particularly when the comparisons are made with respect to the extreme ends of SES. Nevertheless, as most of the available research on experimental manipulations of ladder ratings were limited to the social comparison manipulation, the question remains as to whether other variables (e.g., self-esteem, optimism) may have similar influences. Providing more experimental evidence for the psychosocial determinants of the ladder rating would be an important area for future work.

Qualitative Analysis of Criteria Used for the Subjective Ladder SES Ratings

In one previous study (n = 60), participants were asked in an interview about the criteria they used to rate the ladder SES and their open-ended responses were systematically coded (Adler & Stewart, 2007). An analysis of their responses showed that over 90% reported material wealth compared with 62% who mentioned education.

We conducted a similar qualitative analysis on our own existing data sets that asked participants to rate themselves on the SES ladder, followed by an open-ended response question that asked them what they thought about when they rated the ladder (n = 3590). These data sets included three college samples and four Amazon Mechanical Turk (MTurk) samples. Two research assistants coded the open-ended responses. In this much larger sample, we found that 57.2% mentioned income and material wealth (often mentioned together) compared with 27.2% that mentioned education, and 23.3% that mentioned occupation. Similar to the findings from the original study (Adler & Stewart, 2007), we found that among the typical indicators of objective SES, income was used more than education in making relative SES judgments.

We additionally coded for whether participants explicitly mentioned engaging in social comparisons when rating the ladder SES. We also coded for other categories of information that may reflect top-down influences, namely positive or negative emotions, self-worth, opportunities, health, and sense of control. From the coded responses, 40.2% mentioned social comparison (e.g., "I thought about the amount of money others made," "I was thinking about my current income level in comparison to the area I live"). The other categories were mentioned by less than 10% of the participants. Specifically, 9.1% mentioned emotions (e.g., "I feel terrible," "I feel fortunate," and "very grateful"), 4.0% mentioned opportunities (e.g., "access to opportunities," "educational opportunities," and "opportunities in life"), and 2.0% mentioned health (e.g., "my health state at the moment," "my physical health is not well"), 1.8% mentioned self-worth (e.g., "my achievements," "I don't see myself very highly," and "low self-esteem"), and 1.1% mentioned sense of control (e.g., "circumstances beyond my control," "the amount of freedom I am," and "circumstances people are born into").

Overall, these exploratory qualitative analyses suggest that the ladder SES more commonly activated thoughts about income and material wealth, educational attainment, occupation, as well as social comparisons. The other potential "top-down" influences such as emotions, self-worth, and sense of control were activated to a much lesser degree.

Discussion

In this meta-analysis, we examined the associations between objective SES, subjective SES, and SWB in 357 studies that spanned 103 countries. Drawing on current theories of SES in the psychological sciences (Callan et al., 2011; Kraus, Piff, & Keltner, 2011, 2012), we conceptualized subjective SES as a rank-based judgment that taps on one's level of objective resources, and involves the engagement of social comparisons to form an overall evaluation of where one stands within the social context. Based on this conceptualization, we tested two hypotheses.

First, based on the social comparison process theorized to underlie subjective SES, we hypothesized that the subjective SES-

Table 10
Effect Sizes, Sample Sizes and Manipulations for Each Sample in the Meta-Analysis of the Ladder SES Manipulation Studies

Study	Manipulation	Conditions	*N*	*d*	95% CI-LL	95% CI-UL
Anderson, Kraus, Galinsky, & Keltner (2012)	Comparison	Low relative SES-High relative SES	228	0.54	0.27	0.80
Brown-Iannuzzi, Lundberg, Kay, & Payne (2015)	Comparison (via feedback)	Low relative SES-High relative SES	152	0.67	0.35	1.00
Caruso, Shapira, & Landy (2017)	Money	Abundance-Control	424	0.09	-0.0971	0.28
Caruso, Shapira, & Landy (2017)	Money	Abundance-Control	455	-0.21	-0.401	-0.02
Caruso, Shapira, & Landy (2017)	Money	Abundance-Control	364	0.01	-0.194	0.22
Caruso, Shapira, & Landy (2017)	Money	Scarcity-Control	313	-0.19	-0.404	0.03
Caruso, Shapira, & Landy (2017)	Money	Abundance-Control	326	-0.15	-0.363	0.06
Caruso, Shapira, & Landy (2017)	Money	Scarcity-Abundance	325	0.05	-0.164	0.26
Caruso, Shapira, & Landy (2017)	Money	Abundance-Control	347	0.01	-0.198	0.22
Caruso, Shapira, & Landy (2017)	Money	Scarcity-Control	267	0.00	-0.224	0.22
Caruso, Shapira, & Landy (2017)	Money	Abundance-Control	264	-0.04	-0.262	0.18
Caruso, Shapira, & Landy (2017)	Money	Scarcity-Abundance	217	-0.05	-0.272	0.18
Caruso, Shapira, & Landy (2017)	Money	Abundance-Control	435	-0.06	-0.260	0.13
Caruso, Shapira, & Landy (2017)	Money	Abundance-Control	423	-0.21	-0.403	-0.01
Caruso, Shapira, & Landy (2017)	Money	Abundance-Control	340	0.04	-0.174	0.25
Caruso, Shapira, & Landy (2017)	Money	Scarcity-Control	325	-0.15	-0.357	0.07
Caruso, Shapira, & Landy (2017)	Money	Abundance-Control	342	-0.22	-0.434	-0.01
Caruso, Shapira, & Landy (2017)	Money	Scarcity-Abundance	323	-0.07	-0.281	0.14
Caruso, Shapira, & Landy (2017)	Money	Abundance-Control	376	-0.19	-0.398	0.01
Caruso, Shapira, & Landy (2017)	Money	Scarcity-Control	303	-0.34	-0.566	-0.12
Caruso, Shapira, & Landy (2017)	Money	Abundance-Control	286	-0.14	-0.361	0.07
Caruso, Shapira, & Landy (2017)	Money	Scarcity-Abundance	245	0.19	-0.0338	0.42
Caruso, Shapira, & Landy (2017)	Money	Abundance-Control	113	-0.15	-0.496	0.19
Caruso, Shapira, & Landy (2017)	Money	Abundance-Control	109	0.03	-0.326	0.38
Caruso, Shapira, & Landy (2017)	Money	Abundance-Control	110	-0.10	-0.436	0.24
Cheon, Lim, McCrickerd, Zaihan, & Forde (2018)	Comparison	Low relative SES-High relative SES	93	0.04	-0.454	0.54
Cheon, Lim, McCrickerd, Zaihan, & Forde (2018)	Comparison	High relative SES-Control	93	-0.13	-0.631	0.37
Cheon, Lim, McCrickerd, Zaihan, & Forde (2018)	Comparison	Low relative SES-Control	93	-0.10	-0.595	0.40
Davis & Reyna (2015)	Comparison	Low relative SES-High relative SES	284	0.26	0.03	0.50
Emery & Le (2014)	Comparison	Low relative SES-High relative SES	566	0.32	0.15	0.49
Godsell, Randle, Bateson, & Nettle (2019)	Comparison	Low relative SES-Control	123	-0.11	-0.465	0.25
Huang, Liu, Wang, & Zhang (2016)	Comparison	Low relative SES-High relative SES	120	0.30	-0.057	0.66
Huang, Liu, Wang, & Zhang (2016)	Comparison	Low relative SES-High relative SES	120	-0.58	-0.946	-0.22
Huang, Liu, Wang, & Zhang (2016)	Comparison	Low relative SES-High relative SES	59	0.54	0.02	1.05
Kraus & Adler (2011)	Comparison	Low relative SES-High relative SES	338	0.16	-0.0937	0.42
Kraus & Adler (2011)	Comparison	High relative SES-Control	338	0.05	-0.219	0.33
Kraus & Adler (2011)	Comparison	Low relative SES-Control	338	-0.10	-0.363	0.16
Kraus & Keltner (2013)	Comparison	Low relative SES-High relative SES	163	0.70	0.39	1.02
Kraus & Tan (2015)	Comparison	Low relative SES-High relative SES	420	0.49	0.29	0.68
Kraus, Adler, & Chen (2013)	Mood	Shame-Control	300	0.03	-0.251	0.30
Kraus, Adler, & Chen (2013)	Mood	Sad-Control	300	0.02	-0.255	0.30
Kraus, Anderson, & Callaghan (2015)	Comparison	Low relative SES-High relative SES	403	0.59	0.39	0.79
Kraus, Côté, & Keltner (2010)	Comparison	Low relative SES-High relative SES	81	0.53	0.09	0.97
Kraus, Horberg, Goetz, & Keltner (2011)	Comparison	Low relative SES-High relative SES	91	0.53	0.11	0.94
Li, Lu, Xia, & Guo (2018)	Comparison	Low relative SES-High relative SES	70	0.90	0.41	1.39
Pieritz, Süssenbach, Rief, & Euteneuer (2016)	Comparison	Low relative SES-High relative SES	64	0.54	0.04	1.04
Piff, Stancato, Cote, Mendoza-Denton, & Keltner (2012)	Comparison	Low relative SES-High relative SES	129	0.62	0.27	0.97
Powell (2013)	Comparison	Low relative SES-High relative SES	85	0.59	0.15	1.03
Schubert, Süssenbach, Schäfer, & Euteneuer (2016)	Comparison	Low relative SES-High relative SES	72	0.45	-0.02	0.92
Sim, Lim, Leow & Cheon (2018)	Comparison	Low relative SES-Control	50	-0.30	-0.854	0.26
Tan & Mendes (2018)	Feedback	Low relative SES-Control	124	-0.23	-0.586	0.12

Note. SES = socioeconomic status; 95% CI_{LL} and CI_{UL} = 95% confidence interval.

SWB association would be larger than the objective SES-SWB association. At the aggregate, the hypothesis was supported, with the subjective SES-SWB *r* of .217 larger than the objective SES-SWB *r* of .163. However, when the SES measures were examined separately, only the education-SWB *r* of .122 remained smaller than both the ladder SES-SWB *r* of .220 and perceived SES-SWB *r* of .196. This is consistent with past finding that the education and SWB association is positive but small (Kristoffersen, 2018; Witter et al., 1984). On the other hand, the income-SWB *r* of .234 was comparable with the ladder SES-SWB *r* but larger than the per-

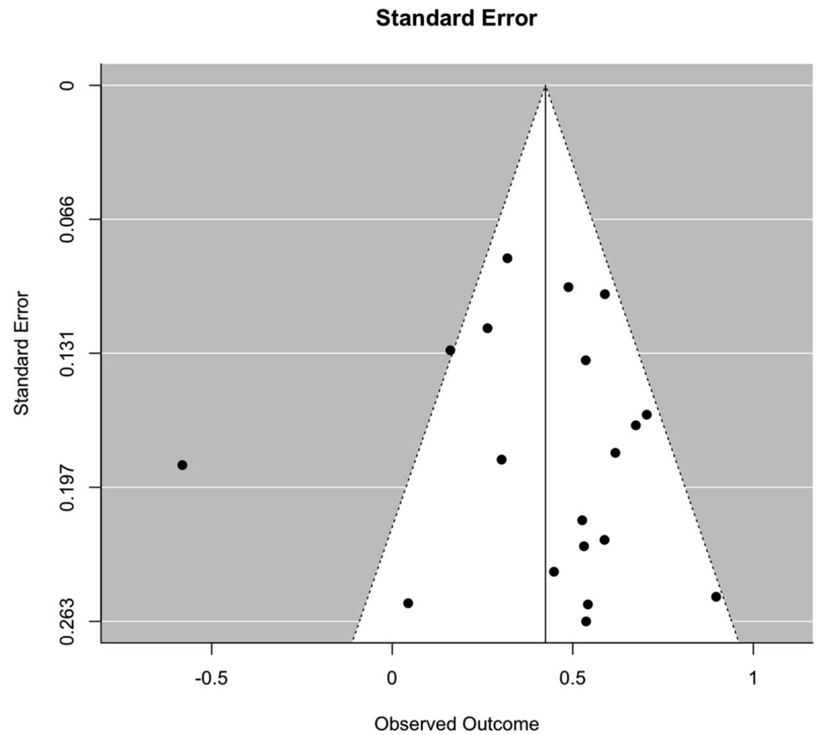


Figure 12. Funnel plot of effect sizes of the all studies that used the social comparison manipulation to affect subjective socioeconomic status (SES) ratings. Standard errors are plotted against the effect sizes.

ceived SES-SWB *r*. In other words, in this analysis, the hypothesis held mainly with objective SES assessed as education, but not as income. Second, we hypothesized that if subjective SES judgments in part draw on objective resource levels, subjective SES should partially mediate the association between objective SES and SWB. Path analyses revealed significant indirect influences of objective SES on SWB via subjective SES, particularly when subjective SES was assessed as the ladder SES. Therefore, the second hypothesis was mainly supported with subjective SES assessed as the ladder SES.

The Role of Common Method Variance

The current meta-analysis also examined the role of common method variance in explaining the subjective SES-SWB association on a subset of studies. The analysis revealed a decrease in the subjective SES-SWB *r* from .310 to .250 after controlling for general positivity bias. This reduced effect size was still substantive, suggesting that positivity or response bias did not fully explain the subjective SES-SWB association.

This finding corroborates with a recent meta-analysis that examined the associations between objective SES, subjective SES and health (Cundiff & Matthews, 2017). In that analysis, a significant partial association between subjective SES and objective biological health measures controlled for objective SES ($r = .018$) was found, suggesting that the influence of subjective SES on health existed beyond common method variance. Although in our analysis we did not address the issue of common method variance in the same way, since no objective measures of SWB exist, our observed subjective SES-SWB estimate controlled for general positivity and reporting biases is consistent with this other meta-analysis. In other words, both meta-analyses provided converging evidence for the unique contribution of subjective SES beyond method variances on outcomes related to overall well-being.

Nonetheless, we do not take the current findings to suggest that common method variance is unimportant in explaining the subjective SES-SWB association. The decrease in effect size from .310 to .250 observed does indicate that a portion of the subjective SES-SWB association is explained by common method variance. In the broader literature on the effects of social class, the relative influences of objective and subjective SES have often been distinguished, with the dominant view that subjective SES has distinctive and sometimes, even more powerful influences on several psychological outcomes than objective SES (e.g., Brown-Iannuzzi et al., 2015; Singh-Manoux et al., 2005). However, our findings suggest that the influence of common method variance could bias the true estimate of associations with subjective SES, and potentially change the interpretation of the relative contribution of subjective SES versus objective SES to psychological outcomes that are often subjectively assessed. Therefore, we believe that more attention should be paid to the role of common method variance when examining the influences of subjective SES on other subjectively assessed outcomes in the study design and analyses. For instance, analyses examining the influence of subjective SES should, as a standard, account for covariates such as affect, optimism, self-esteem, or other potentially biasing constructs, besides demonstrating its incremental validity beyond objective SES. This is particularly important if the research also intends to compare the relative influences of objective and subjective SES on subjectively assessed outcomes.

We also note that in addressing the common method variance issue by controlling for general positivity influences an inherent assumption made is that affect does not play a role in subjective SES influences on SWB or health. However, it has been argued that affect may well be part of the subjective SES process, by capturing the stressful aspects of everyday social interactions from social comparisons (Cundiff et al., 2016; Cundiff & Smith, 2017). Although this is beyond the scope of the current investigation, we believe that elucidating the role of affective processes in subjective SES judgments is an important area of future research that will enrich our understanding of what subjective SES judgments capture.

The Role of Comparison Processes

Macrolevel moderators theoretically linked to social comparison were tested for their influences on the objective SES-SWB and subjective SES-SWB effect sizes, namely the wealth of countries, cultural orientation, income inequality, and population density. Among these moderators, only population density produced patterns that were consistent with the social comparison process. Specifically, the findings supported the notion that in high population density environments where social comparisons are heightened because of competition for resources, the ability to attain high levels of resources is important for SWB. The remaining moderator tests, however, yielded largely mixed findings.

While the hypothesis based on Need Theory that the objective SES-SWB association should be stronger in less wealthy countries was mainly supported, the hypothesis that social comparison needs are stronger in wealthier countries was largely unsupported, given that the subjective SES-SWB association did not strengthen with increasing wealth of countries. The subjective SES-SWB association also did not vary with cultural orientation, contrary to the social comparison hypothesis (Baldwin & Mussweiler, 2018). Nonetheless, the education-SWB r increased with stronger collectivism, partially supporting the idea that the SWB of collectivists is more dependent on objective SES that are considered shared norms of success (Curhan et al., 2014). Income inequality did not significantly increase the objective SES-SWB and subjective SES-SWB associations as well, regardless of how income inequality was assessed. Instead, the subjective SES-SWB association decreased as GINI increased fairly consistently, contrary to the view that inequality should heighten negative social comparisons and strengthen the effects of relative SES (Cheung & Lucas, 2016).

We consider a few explanations for this unexpected pattern observed with income inequality. A recent work that examined the income inequality and health relationship using panel data found that the negative impact of income inequality was supported in models that controlled for confounds, while a positive impact of income inequality was found when the models did not account for confounds (Kragten & Rözer, 2017). In the current samples, as the GINI and 90/10 ratios shared significant associations with the other moderators, we considered the possibility that confounds may have masked our actual findings. To examine this possibility, we ran further analyses that tested for the effect of inequality on the objective SES-SWB and subjective SES-SWB effect sizes, controlling for all of the other moderators. As a result, while all of the nonsignificant patterns remained, the previously significant negative effect of the GINI on subjective SES-SWB r became nonsignificant, suggesting that confounds may have played a role in our findings.

Another possible explanation is that the impact of income inequality depends on specific conditions or contextual factors, as suggested by the fairly mixed literature on the effects of income inequality. In fact, a number of research have found positive links between income inequality and SWB (Berg & Veenhoven, 2010; Clark, 2003; Haller & Hadler, 2006; Rözer & Kraaykamp, 2013; Senik, 2004), or no associations at all (Alesina, DiTella, & MacCulloch, 2002; Berg & Veenhoven, 2010; Bjørnskov, Dreher, & Fischer, 2008; Fahey & Smyth, 2004; Senik, 2004). Several contexts in which income inequality may produce positive effects on SWB have been discussed. For instance, if inequality was a result of positive economic reforms (Eggers, Gaddy, & Graham, 2006), or if inequality led to redistribution of income through greater public spending, SWB is likely to increase (Boustan, Ferreira, Winkler, & Zolt, 2013; Chetty et al., 2016). Some recent evidence also suggests that people may be more accepting or tolerant of income inequality if the economic system is perceived as fair (Shariff, Wiwad, & Aknin, 2016; Starmans, Sheskin, & Bloom, 2017), which could dampen the negative impact of inequality. As the current samples lack information about government spending, income redistribution, or perceptions of fairness of the economic system, we could not test these explanations. However, we believe that these are important factors to consider in future studies of inequality effects.

Relatedly, social mobility has also been suggested to dampen the negative impact of income inequality. Because mobility beliefs help to maintain aspirations of moving up, individuals may be less affected by current levels of inequality as long as social mobility is high (Bjørnskov, Dreher, Fischer, & Schnellenbach, 2010; Senik, 2004). We tested this mitigating role of social mobility by examining the interaction between income inequality and social mobility on the SES-SWB effect sizes. We found significant interactions between income inequality assessed by the 90/10 ratio and relative social mobility on the education-SWB effect size, $b = -0.27$, $SE = 0.11$, $z = -2.47$, $p = .013$, and on the ladder SES-SWB effect size, $b = -0.29$, $SE = 0.11$, $z = -2.58$, $p = .001$. The pattern of interaction on education-SWB was as such: When relative social mobility was low, higher "top-heavy" inequality decreased the education-SWB association, $t(78) = 7.61$, $p < .001$. When relative social mobility was high, levels of top-heavy inequality did not affect the education-SWB association, $t(78) = 0.51$, $p = .61$. A similar pattern was observed with the ladder SES-SWB association, such that higher top-heavy inequality decreased the ladder SES-SWB association when relative social mobility was low, $t(63) = 10.44$, $p < .001$, but did not significantly affect the ladder SES-SWB association when relative social mobility was high, $t(63) = 1.94$, $p = .06$. We note that these findings are only preliminary, but believe that the idea that social mobility reduces the negative impact of income inequality deserves further investigation in future inequality research.

Overall, although the moderator analyses did not provide consistent support for the idea that the subjective SES-SWB associations should strengthen with social comparison processes at the macrolevel, it is possible that these processes happen more locally than the analyses in this meta-analysis are poised to capture. That is, social comparison happens at the level of local interactions between people in the context of their networks of social relationships. At the meta-analytic level, macrolevel variables, particularly income inequality, may only weakly tap into these micro level comparisons (Kraus et al., 2013; Norton, 2013). In this vein, future work should examine the role of these moderators more locally, such as at the regional or municipal level. Future research could also capitalize on new methods that monitor social comparison that people engage in from moment to moment contexts to provide the most direct test of the relativity hypothesis. These micro contexts may best capture variation in associations between SES and SWB because of social comparisons.

Although the macrolevel moderators did not appear to affect subjective SES in ways predicted by social comparison, the meta-analysis of experimental manipulations of the ladder SES ratings showed that direct inductions of social comparisons were successful in shifting subjective SES judgments. In contrast, the effect of other manipulations such as money and mood primes on subjective SES judgments based on very limited studies were unclear. In addition, our qualitative analysis of open-ended response to what the ladder SES measure capture also revealed that people quite often engaged in social comparisons, on top of thinking about their income, wealth, or education. These more directed tests and measures of the social comparison process do provide evidence that subjective SES judgments involve social comparison processes. Therefore, experimental inductions of social comparisons may be a fruitful avenue for investigating the causal effects of subjective SES on SWB, as well as on other outcomes of interest.

Finally, beyond the main focus on social comparison processes, our moderator analyses also suggested the important potential role of social mobility—that is, mobility can shift social comparison targets and provide for differential associations between SES and SWB. Whether social mobility increases the magnitude of SES and SWB associations or heightens feelings of uncertainty and societal stability is another interesting topic of future research (Destin & DeBrosse, 2017).

Limitations and Future Directions

The current meta-analysis is not without limitations, so the findings and conclusions of this meta-analysis should be considered in the light of these limitations. The first relates to interpreting the correlational effect sizes estimated in the current research. Although SES is often thought of as preceding SWB in the causal chain, this could not be completely ascertained in the current research. Future research that focus on experimental work or meta-analyses of studies that manipulate subjective SES, possibly by inducing social comparisons, would be useful to determine the directionality between the SES and SWB variables.

Despite efforts to be inclusive in the search for articles to be screened and included in this meta-analysis, the tests of publication bias suggested that some selection bias might be present in the samples that assessed objective SES. One possible reason is the lack of unpublished data in the current samples, resulting in a number of studies may have been unintentionally omitted. Although efforts have been made to reach out to researchers through various medium for unpublished data, the goal of including such data was limited by the low response rates. Additionally, a large number of articles that qualified for inclusion did not report raw correlations for the SES and SWB relation. As with the responses to requests for unpublished data, responses to requests for missing correlations were also low.

Another limitation pertains to incomplete information on moderators for a number of samples. This was particularly an issue for the measures of income inequality and social mobility, where information on these indices was not available for some of the countries and cohorts. As a result, the moderator analyses could not be conducted on all of the available samples, and the samples examined for each moderator analysis were not always the same. It is also possible that other moderators that might have influenced objective and subjective SES associations with SWB were unidentified and not examined in this analysis.

The current meta-analysis only focused on income and education as indices of objective SES, and did not examine the role of wealth for SWB. Compared with income, wealth is arguably a more stable source of SES and may show more reliable associations with SWB. However, the meta-analysis is limited by the availability of studies that examine wealth and SWB. Furthermore, because of various possible sources of wealth (e.g., income, asset, investments, savings, and debt), and that wealth could also be inherited (e.g., old money vs. new money), it is more difficult to assess wealth accurately compared with reports of household and personal income. Nonetheless, the question of how wealth may relate to subjective SES and affect SWB is certainly an important future area for investigation.

Finally, some research in the United States have suggested racial differences in the predictive utility of subjective SES on important outcomes. In particular, subjective SES appears to be a weaker predictor of health of people from racial minority versus majority backgrounds (Adler et al., 2008; Cundiff & Matthews, 2017). With respect to White versus Black populations, the meaning and significance of subjective SES is likely to change as a function of the addition of a racial hierarchy in society, potentially shaping differential meaning of societal status and its relationship to economic factors like income and education (Cohen, Shin, Liu, Ondish, & Kraus, 2017; Cundiff & Matthews, 2017; Pattillo, 1999). However, because of the lack of racial diversity in many of the samples in the literature, including the ones reviewed in the current research, the ability to systematically test possible racial differences in how subjective SES is defined remains an important challenge to be addressed by future research.

Conclusion

Across many modern societies, money and resources continue to be prioritized as an important means to happiness. The current meta-analysis reaffirmed the notion that money and resources, whether objectively reported or subjectively perceived, is significantly linked to SWB. The tests of macrolevel moderators of the objective SES-SWB and subjective SES-SWB associations also provided preliminary evidence for the processes that may undergird the objective and subjective SES associations with SWB. These moderators should be further examined at a more local level to provide stronger and more direct tests of the underlying processes. Overall, the current research hopes to motivate and guide future work in SWB research toward greater attention to the role of the distinct aspects of SES, and to generate novel insights on the psychological determinants and processes that underlie the successful pursuit of the good life.

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