

Income Is a Stronger Predictor of Subjective Social Class in More Economically Unequal Places

Personality and Social
Psychology Bulletin
1–14
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DOI: 10.1177/01461672231210772
journals.sagepub.com/home/pspb



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Abstract

In this research, we examine how the lay conceptualization of subjective social class varies based on economic contexts. We argue that income should be a more central component of subjective social class in areas with higher income inequality. To address the issue of low power in existing research, we combined local-level income inequality indicators with large-scale repeated cross-sectional data, enabling the most reliable test to date on how the relationship between income and subjective social class is moderated by inequality. We used nationally representative datasets from the United States and South Korea (encompassing 25,000+ participants from 1,246 regional-year units). In both cultural contexts, our multilevel models revealed that income is a stronger predictor of subjective social class in regions with higher levels of income inequality. This work advances the theoretical and empirical understanding of how income and income inequality interact to shape the perception of one's position in the social hierarchy.

Keywords

income inequality, subjective social class, income, class identification, multilevel modeling

Received May 2, 2023; revision accepted October 11, 2023

Social scientists commonly operationalize social class by assessing individuals' perceptions of their socioeconomic position relative to others in society (e.g., Kraus et al., 2012; Oesch & Vigna, 2023; Romero-Vidal, 2021). This measure, known as subjective social class, has proven to be a powerful predictor of a wide range of critical outcomes related to cognition (e.g., Kraus et al., 2009), emotion (e.g., Miyamoto et al., 2018), and behavior (e.g., Dubois et al., 2015). Despite the importance of this measure, little is known about how the lay conceptualizations of subjective social class vary across societal contexts (Grossmann & Huynh, 2013). In this research, we sought to answer this question and propose that individuals living in areas with higher income inequality would place more emphasis on income when defining their subjective social class.

Formation of One's Subjective Social Class

Subjective social class refers to an individual's perception of their position within society, which is broadly shaped by social interaction (Destin et al., 2017). When assessing their subjective social class, individuals commonly compare their material conditions with those of others to determine their placement within the social hierarchy (Boyce et al., 2010).

Typically, these comparison processes rely on income, wealth, educational attainment, and occupational prestige—all indicators of an individual's level of access to valuable resources and opportunities (Kraus & Stephens, 2012). Such processes can occur either consciously or unconsciously, influenced by various cues signaling social class in daily interactions, such as social behavior, clothes, or speech style (Kraus et al., 2013, 2017).

However, the assessment of one's subjective social class is not formed in a contextual vacuum. People are embedded in specific local contexts, and there is reason to believe that judgments of their social class can be influenced by these contexts (Destin et al., 2017). For instance, research has shown that French and German people living in urban areas perceive their social status as higher than others with similar objective positions living in rural areas (e.g., Vigna, 2023). As another example, individuals in more affluent contexts are more prone to perceiving themselves as higher class

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compared to those with comparable positions in less prosperous contexts (e.g., Evans & Kelley, 2004; but also see Andersen & Curtis, 2012). Moreover, demographic shifts within an individual's context, such as rising university enrollment or changes in employment, can affect subjective social class (e.g., Sudo, 2019).

The above examples underscore the role of context in shaping the social processes underpinning the formation of subjective social class. Building on this, we aim to investigate how a critical macroeconomic feature of the local context, specifically income inequality, interacts with individual income to alter the assessment of subjective social class.

The Relationship Between Income and Subjective Social Class

Income is one of the most reliable determinants of subjective social class: People with higher incomes perceive themselves as belonging to a higher social class. However, a meta-analysis revealed that the relationship between income and subjective social class is far from perfect, with a moderate meta-analytic correlation of approximately $\bar{r} = .33$ (Tan et al., 2020). Importantly, this study also documented a very substantial level of heterogeneity between existing studies, with more than 95% of the variation in findings being explained by differences between studies.¹ This indicates that income may be a more critical factor for some people than for others in evaluating their social class, and suggests that the importance of current income may vary between individuals and contexts.

There is evidence that the association between income and subjective social class differs based on *between-individual sociodemographic factors*. As income operates differently across groups and times (Cohen et al., 2019), it is not surprising that its relationship with subjective social class can differ across sociodemographic groups. For instance, research has shown that income is a more important predictor of subjective social class for White and Hispanic Americans than for Black Americans. A U.S. survey from the 1960s documented that Black Americans' perceptions of their socioeconomic position are less influenced by income than those of White Americans (Jackman & Jackman, 1973). More recently, a study using the General Social Survey (GSS) data (spanning 1972-2010) confirmed that Black Americans do not rely as heavily on income to assess their social class as do White, Asian, and Latin Americans (Cohen et al., 2017). This suggests that historically marginalized and negatively stereotyped groups might not view income (economic achievement) as central to their social class perceptions (for additional research, see Ostrove et al., 2000; Wolff et al., 2010). As another example, research has shown that the weight given to income in determining subjective social class is more pronounced for men than for women (Demakakos et al., 2008), though other studies have found

opposite patterns (Veenstra & Kelly, 2007), or no gendered differences (Nielsen et al., 2015). The reason for these variations is likely due to the fact that self-perceived status is a social construct that relies on income comparison processes and the choice of reference groups (McLeod, 2013).

But there is also evidence that the association between income and subjective social class may differ based on *between-context socioeconomic factors*. While research in this area is limited, a study revealed that the effects of objective indicators of social class on subjective social class varied depending on whether participants lived in urban or rural areas (Chen & Fan, 2015). Specifically, in this study, higher income was associated with a deflated status among Chinese urban residents, while this relationship was not observed among rural residents. With China's rapid urbanization and the unique pace of social stratification in metropolitan areas, urban residents might find it more challenging than rural residents to locate their exact position on the social ladder. This study suggests that the broader socioeconomic context can shape the extent to which an objective factor such as income contributes to people's perception of social class (for a compatible theoretical perspective, see Destin et al., 2017). In the present research, we focus on a specific contextual factor that is particularly psychologically relevant to how income shapes subjective status: the distribution of income within one's place.

Income Inequality and the Relationship Between Income and Subjective Social Class

Extreme and rising income inequality is one of the greatest global issues of our time. In the United States, which is one of the most unequal countries in the West, the top 20% of the population earns more than half of all wages, while the bottom 20% earn only 3% (Shrider et al., 2021). Such disparities mark a return to a historic level of inequality not seen since the post-war era (Chancel et al., 2022). A similar trend can be observed in Asia, where the gap between the rich and the poor has also widened (Huang et al., 2019). South Korea, in particular, stands out as a nation grappling with marked income disparities (Organisation for Economic Co-operation and Development [OECD], 2020). Income inequality in South Korea is now higher than in Western Europe and closer to that observed in the United States, with the top 10% earning 14 times more than the bottom 50% (Chancel et al., 2022).

Greater income inequality results in increased economic stratification, both within one's physical and social environment. In economically unequal places, the poor and the rich are not only further away from one another on the income scale (Wilkinson, 1997), but they also tend to live and experience different social worlds (Rothstein & Uslaner, 2005). This has two major implications on the way people think (Sommet & Elliot, 2023a). First, income inequality increases

the relevance of economic categorization, leading people to view that society as divided between “haves” and “have-nots” (Peters et al., 2022). Second, income inequality increases the subjective importance of economic status, leading people to place greater emphasis on economic achievement (Du et al., 2022), status competition (Sommet et al., 2019), and conspicuous consumption (Walasek & Brown, 2015).

The literature points out that income inequality should specifically increase the importance of income. Three lines of evidence support this idea. First, research indicates that people living in places with higher income inequality are more likely to compare themselves with others in terms of income (Cheung & Lucas, 2016), which in turn generates a greater perceived financial need (Payne et al., 2017; Wang et al., 2023). Moreover, people living in societies with higher levels of income inequality tend to work longer hours than those residing in more equal societies (Bell & Freeman, 2001), presumably to improve their income status in comparison to richer others (Alexiou & Kartiyasa, 2020). Finally, income position rank is a stronger predictor of well-being in societies with higher levels of economic inequality (Macchia et al., 2020), suggesting that individuals attach more importance to income in such contexts (for congruent findings, see Layte, 2012; but see Quispe-Torrealblanca et al., 2021).

As greater income inequality results in a greater emphasis on income, it follows that when income inequality rises, income becomes a more central component of an individual's self-perception of their status. In simpler terms, as income inequality increases, individuals with lower incomes may see themselves as belonging to a lower social class, while those with higher incomes may view themselves as part of a higher social class. To the best of our knowledge, only four pieces of research have provided some preliminary tests of similar ideas or variations of these ideas. First, Lindemann and Saar (2014) compared 21 European countries and found that larger national income inequality resulted in larger subjective social position differences between income groups. Second, Zhao (2012) compared 23 Chinese provinces and found that regional income inequality increased the predictive strength of personal income on self-perceived social status. Third, Andersen and Curtis (2012) compared 44 countries and found that in nations with higher income inequality, the relationship between household income and class identity tended to be more pronounced. Finally, Curtis (2013) investigated 15 countries (comprising European and Anglo-Saxon countries) and found that the relationship between household income and class identity was strongest in places with higher income inequality.

Importantly, these four studies should be regarded as preliminary at best due to a key limitation: the use of a limited number of higher-level units. Generally speaking, when examining higher-level effects or cross-level interactions, the number of clusters (e.g., countries, provinces) is far more

important than the number of observations per cluster (e.g., participants) for producing reliable estimates (Sommet & Morselli, 2021). However, the largest study among the four aforementioned studies only included 44 countries (Andersen & Curtis, 2012). A higher-level sample size of this scale offers sufficient power only to detect a cross-level interaction with a large standardized effect size of $\gamma \geq .50$ (Arend & Schäfer, 2019), which is often implausibly large in the case of interactions (Sommet et al., 2023). In such situations, the estimation of contextual effects may be driven by noise, as demonstrated by the imprecise estimation of the main effect of income inequality in the previous four studies: This effect is either negative (Lindemann & Saar, 2014; see Model 2 in Table 2), positive (Zhao, 2012; see Model 1 in Table 3; Curtis, 2013; see Table 2), or null (Andersen & Curtis, 2012; see Model 4 in Table 2). This underscores the need for a high-powered test to accurately examine the interaction between income inequality and income in predicting subjective social class.

The Present Study

In the present research, we aimed to test the hypothesis that income is a stronger predictor of subjective social class as income inequality increases. To address the problem of the limited number of higher-level units in prior research, we used repeated cross-sectional data and focused on local-level indicators of income inequality, thereby increasing the sample size at the level where the effect is measured. Specifically, we employed two large nationally representative datasets, each spanning a decade, and focused on regional inequality, which yielded a large number of regional units over time (e.g., in the United States, a large number of county-year-based units such as “Harris County-2014,” “Harris County-2016,” and “Fairfax County-2014”) and a large power to detect a small-sized version of our interaction (known as attenuated interaction; see Blake & Gangestad, 2020). Study 1 examined the United States, one of the most unequal Western countries. We combined the GSS dataset with county-level economic data (the most local level of geographic aggregation available). Study 2 examined South Korea, one of the most unequal Eastern countries. We used the South Korean version of the GSS (KGSS) and combined it with province-level economic data (a level of geographic aggregation nearly comparable to the GSS). By examining changes in income inequality over time and pooling the within-region effects in each country, we not only maximized statistical power but also minimized the impact of cultural and economic differences between regions. We believe that this approach allows for the most robust test of our hypothesis to date.

The present studies were not preregistered. All materials, analyzed data, and code files (Stata .do files) for reproducing all analyses can be found on the Open Science Framework: <https://osf.io/ajk3d/>

Table 1. Demographic Information in Studies 1 and 2.

Variable	GSS (Study 1)	KGSS (Study 2)
Individuals		
Percentage of women	54.88%	53.50%
Age	47.21 (17.03)	44.60 (16.14)
Number of years of education	13.79 (3.07)	12.00 (4.25)
Percentage of employed (part- of full-time job)	61.27%	58.41%
Percentage of married	44.75%	65.48%
Political orientation	2.64 (1.95)	3.04 (0.98)
Regions		
Total population (per 1,000,000 population)	1.16 (1.86)	5.79 (4.19)
Poverty headcount ratio	14.49% (5.50)	0.25% (0.03)
Unemployment rate	7.54% (2.82)	3.43% (0.89)
Median annual income (thousands)	55.34 (14.24)	22.61 (7.20) ^a

Note. SDs are given in parentheses. In Study 1, political orientation was measured with a seven-point scale (0 = *strong Democrat* to 6 = *strong Republican*), whereas in Study 2, a five-point scale was used (1 = *very liberal* to 5 = *very conservative*). In Study 2, "Percentage of married" indicates the percentage of participants having a partner. GSS = General Social Survey; KGSS = Korean General Social Survey.

^aThe province-year level median annual income was not available in Study 2, so we used gross regional domestic product as a substitute.

Study 1. The General Social Survey Data

We first used a representative sample of the U.S. population to investigate whether the relationship between income and subjective social class is moderated by income inequality. Specifically, we expected income to be a stronger predictor of subjective social class as regional income inequality increases.

Method

Data Sources. We pooled the responses from the GSS data, a nationally representative, repeated cross-sectional survey conducted in the United States. We gathered participants' county of residence (the most local level of geographic aggregation available) from the National Opinion Research Center, and we drew county-level economic data from the American Community Survey (U.S. Census Bureau, 2022).

We focused on complete responses collected from 2006 to 2016, which corresponded to the waves for which our focal variables were available. Our sample consisted of 10,635 respondents from 1,081 county-years and 278 counties (Table 1 presents the sample demographic characteristics). A sensitivity analysis with 10K simulated datasets revealed that the sample size was sufficient to detect an attenuated interaction between income and income inequality involving small-sized ($\beta = .10$) and medium-sized ($\beta = .20$) simple slopes ($\alpha = .05$) with power above .99.

Measures. The correlations between all measures are reported in Table 2.

Subjective Social Class. We used participants' perception of their rank within their society as our outcome variable.

Respondents answered the following question using a four-point scale: "If you were asked to use one of four names for your social class, which would you say you belong in. . .? (1 = *lower class*, 2 = *working class*, 3 = *middle class*, and 4 = *upper class*)" ($M = 2.42$, $SD = 0.69$, $ICC_{\text{county}} = .07$ [.05, .08]).

Income. We used participants' inflation-adjusted annual household income as our lower-level focal predictor. We took two methodological precautions. First, to adjust for household size, we computed equivalized income by dividing inflation-adjusted household income by the square root of household size (OECD, 2019). Second, because the distribution of household income is positively skewed, we log-transformed the inflation-adjusted equivalized income ($M = 9.59$, $SD = 1.12$).

Income Inequality. We obtained county-year Gini coefficient estimates from the American Community Survey and used it as our higher-level focal predictor. The Gini coefficient is a commonly used index of income inequality that can range from 0 (*complete equality*; the same amount of income across all members of the region) to 1 (*complete inequality*; one person in the region has all the income and the other people have none; $M = 0.46$, $SD = 0.04$).

Results

Analytical Strategy. We aimed to test whether income is more strongly associated with subjective social class in counties with higher income inequality. To take into account the hierarchical nature of the data, we built a multilevel linear model with participants (level-1 units) nested in counties (level-2 units), while including year fixed-effects (i.e., year dummies) to partial out the variance accounted for by period

Table 2. Correlations Between All Measures in Studies 1 and 2.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Subjective social class	—	.37***	.02**	-.04***	-.21***	.35***	.06***	.09***	-.04***	.08***	-.04***	.05***	.02*
2. Log equivalized income	.40***	—	-.01	-.08***	-.36***	.48***	.30***	.11***	-.05***	.15***	-.08***	.08***	.04***
3. Income inequality	.02*	-.04***	—	.00	-.04***	.03***	.00	.00	.01	.22***	.20***	.13***	-.17***
4. Gender	-.04***	-.10***	.01	—	.02**	-.17***	-.27***	.00	.03***	-.01	.01	.00	-.02*
5. Age	.13***	.13***	-.02*	.01	—	-.58***	-.11***	.23***	.14***	-.10***	.07***	-.12***	.09***
6. Years of Education	.33***	.41***	.04***	.00	-.01	—	.21***	.10***	-.09***	.16***	-.10***	.17***	-.05***
7. Employment status	.03**	.24***	-.01	-.13***	-.34***	.14***	—	.14***	-.04***	.02**	-.01	.00	.02*
8. Marital status	.17***	.30***	-.09***	-.05***	.10***	.10***	.06***	—	.05***	.01	-.02*	-.01	-.02*
9. Political orientation	.09***	.11***	-.12***	-.09***	.02	.01	.03***	.15***	—	-.02**	.00	.00	-.01
10. Total Population	.00	-.02	.34***	-.02	-.05***	-.03**	.03**	-.04***	-.08***	—	-.41***	.47***	.01
11. Poverty headcount ratio	-.09***	-.19***	.50***	.02*	-.04***	-.10***	-.04***	-.09***	-.09***	.11***	—	-.26***	-.07***
12. Unemployment rate	-.05***	-.10***	.20***	.01	-.02*	-.07***	-.04***	-.05***	-.07***	.11***	.52***	—	-.24***
13. Median annual income	.12***	.20***	-.20***	-.03**	.02	.14***	.06***	.07***	.01	.06***	-.72***	-.39***	—

Note. Gender: 1 = women, 0 = men; Employment status: 1 = working, 0 = not working; Marital status: 1 = married, 0 = others. Correlations below the diagonal are from Study 1 (GSS), whereas correlations above the diagonal are from Study 2 (KGSS).

* $p < .05$. ** $p < .01$. *** $p < .001$.

effects (Allison, 2009). We used log equivalized income (lower level), the Gini coefficient (higher level), and their cross-level interaction as focal predictors, and subjective social class as the outcome variable. To avoid comparing counties belonging to different periods and better approach causality, we cluster-mean centered the Gini coefficients. Specifically, we subtracted the county-specific mean of the Gini coefficient from each year of the Gini coefficient estimate, which enables us to estimate the pooled within-county effect of income inequality over time (e.g., Enders & Tofighi, 2007). The multilevel regression equation is as follows:

$$\begin{aligned} \text{Subjective Social Class}_{ij} = & \gamma_{00} + \gamma_{10} \times \text{Income}_{ij} + \\ & \gamma_{01} \times \text{Gini}_j + \gamma_{11} \times \text{Income}_{ij} \times \\ & \text{Gini}_j + \alpha_c + u_{0j} + u_{1j} + e_{ij} \end{aligned}$$

where $i = 1, 2, \dots, n$ [participants], $j = 1, 2, \dots, k$ [counties], α_c represents year fixed-effects ($c - 1$ dummies), u_{0j} represents the county-level intercept residual term (i.e., random intercept), u_{1j} represents the county-level slope residual term for income (i.e., random slope), and e_{ij} represents the individual-level error term.

This model was tested without (Model 1) and with (Model 2) six lower-level control variables (gender, age, years of education, employment status, marital status, and political orientation) and four potential higher-level confounders (total population, poverty rate, unemployment rate, and median annual income) commonly used in the extant literature (e.g., Andersen & Curtis, 2012; Zhao, 2012). Lower-level continuous control variables were grand mean-centered, whereas categorical variables were dummy-coded. All higher-level control variables were county-mean centered.

Main Analysis. As expected, our results showed a significant interaction between income and county-level income inequality on subjective social class, $B = 1.27$, $SE = 0.51$, 95% CI [0.27, 2.27], $p = .013$ (see Table 3 and Figure 1). We probed this interaction by estimating simple slopes at high (+1 SD), and low (−1 SD) levels of income inequality, and we computed the standardized estimates (in parentheses) to give a sense of the magnitude of the simple slopes (for a summary of the standardized estimates of the simple slopes, see Supplemental Table S1). Income was a stronger predictor of subjective social class in relatively unequal counties, $B = 0.27$ ($\beta = .44$), $SE = 0.01$, 95% CI [0.25, 0.29], $p < .001$ than in relatively equal counties, $B = 0.24$ ($\beta = .39$), $SE = 0.01$, 95% CI [0.22, 0.26], $p < .001$. The conclusion from the analysis remained similar when all lower-level and higher-level control variables were included in the model (see Table 3; for the results with standardized coefficients, see Supplemental Table S2).

Additional Analysis. Given that income inequality specifically increases the salience of *income* stratification, it should accentuate the psychological relevance of income, but not

non-economic objective indicators of social class, such as education. To test this, we incorporated the interaction term between years of education and income inequality into our main model, anticipating that this interaction should not differ from zero. Consistent with our expectation, this additional analysis revealed that the interaction between years of education and income inequality on subjective social class was nonsignificant, while the interaction between income and income inequality was not statistically different from the interaction in the main model and remained significant, $B = 1.13$, $SE = 0.53$, $p = .035$ (for the full results, see Supplemental Table S3).

Discussion

In Study 1, we sought to provide an initial test of whether the association between income and subjective social class is moderated by income inequality using a large dataset from one of the most unequal Western countries. The findings were consistent with our hypothesis: The association between income and subjective social class was found to be stronger in more unequal U.S. regions. Specifically, income becomes a stronger predictor of subjective social class as county-level income inequality increases. We next tested whether we could replicate our GSS findings using a nationally representative data set from an Asian rather than a Western culture.

Study 2. The Korean General Social Survey Data

In Study 2, we used a representative sample of the South Korean population to replicate the findings observed in Study 1. We again expected income to be a stronger predictor of subjective social class as regional income inequality increases.

Method

Data Source. We pooled the responses from the KGSS data, the South Korean version of the GSS (Kim et al., 2017). We gathered participants' province of residence from the Survey Research Center of Sungkyunkwan University, and we drew province-level economic data from the Korean Statistical Information Service (KOSIS, n.d.).

Again, we focused on complete responses collected from 2003 to 2013, which corresponded to the waves for which our focal variables were available. Our sample consisted of 15,173 respondents from 165 province-years and 15 provinces (Table 1 presents the sample demographic characteristics). The same simulation-based sensitivity analysis used in Study 1 revealed that the sample size was sufficient to detect the hypothesized interaction with a power above .99.

Measures. The correlations between all measures are reported in Table 2.

Table 3. Coefficient Estimates (and Standard Errors) From the Multilevel Models Testing the Interactive Effects of Income and Income Inequality on Subjective Social Class in Studies 1 and 2.

Variable	GSS (Study 1)		KGSS (Study 2)	
	Model 1	Model 2	Model 1	Model 2
	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)
Intercept	2.46 (0.02)	2.51 (0.02)	4.57 (0.05)	4.75 (0.08)
Log equivalized income	0.26*** (0.01)	0.20*** (0.01)	0.57*** (0.02)	0.44*** (0.02)
Income inequality (Gini coefficient)	0.26 (0.58)	-0.32 (0.59)	0.65 (0.51)	0.25 (0.53)
Log equivalized income × inequality	1.27* (0.51)	1.28** (0.50)	1.15** (0.43)	0.99* (0.44)
Year-2008 (GSS) / 2004 (KGSS)	-0.04* (0.02)	-0.05* (0.02)	0.10 (0.06)	0.04 (0.06)
Year-2010 (GSS) / 2005 (KGSS)	-0.05* (0.02)	-0.09** (0.03)	-0.03 (0.06)	-0.06 (0.06)
Year-2012 (GSS) / 2006 (KGSS)	-0.05* (0.02)	-0.09** (0.03)	0.22*** (0.06)	0.17** (0.07)
Year-2014 (GSS) / 2007 (KGSS)	-0.06** (0.02)	-0.10*** (0.03)	0.04 (0.06)	0.01 (0.08)
Year-2016 (GSS) / 2008 (KGSS)	-0.10*** (0.02)	-0.14*** (0.03)	0.00 (0.06)	-0.03 (0.08)
Year-2009 (KGSS)			-0.15** (0.06)	-0.22** (0.08)
Year-2010 (KGSS)			-0.05 (0.06)	-0.12 (0.10)
Year-2011 (KGSS)			0.12 (0.06)	0.04 (0.11)
Year-2012 (KGSS)			-0.11 (0.06)	-0.09 (0.12)
Year-2013 (KGSS)			0.03 (0.06)	-0.09 (0.13)
Gender		-0.02 (0.01)		0.01 (0.03)
Age		0.00*** (0.00)		0.00 (0.00)
Year of education		0.05*** (0.00)		0.09*** (0.00)
Employment status		-0.08*** (0.01)		-0.28*** (0.03)
Marital status		0.06*** (0.01)		0.14*** (0.03)
Political orientation		0.02*** (0.00)		-0.01 (0.01)
Total population		-0.00 (0.00)		-0.00 (0.00)
Poverty headcount ratio		0.01 (0.01)		0.80 (0.77)
Unemployment rate		0.00 (0.01)		0.05 (0.05)
Median annual income		0.00 (0.00)		0.00 (0.00)
Level-2 intercept variance	0.01 (0.001)	0.005 (0.002)	0.01 (0.003)	0.01 (0.003)
Level-2 slope residual variance	0.01 (0.002)	0.01 (0.002)	0.001 (0.001)	0.003 (0.002)
Covariance term	-0.002 (0.001)	-0.003 (0.001)	0.003 (0.002)	0.001 (0.002)
Level-1 residual variance	0.37 (0.01)	0.36 (0.01)	2.28 (0.03)	2.12 (0.03)
Number of observations	10,635	10,543	15,173	14,315

Note. Gender: 1 = women, 0 = men; Employment status: 1 = working, 0 = not working; Marital status: 1 = married, 0 = others. Changes in the number of observations are due to missing values from one model to another. GSS = General Social Survey; KGSS = Korean General Social Survey. * $p < .05$. ** $p < .01$. *** $p < .001$.

Subjective Social Class. We used participants' perceptions of their rank within their society as our outcome variable. Respondents answered the following question using a 10-point scale: "In our society, there are groups which tend to be toward the top and groups which tend to be toward the bottom. Where would you put yourself on this scale? (1 = bottom to 10 = top)" ($M = 4.60$, $SD = 1.64$, $ICC_{\text{province}} = .008$ [.003, .017]).²

Income. We used participants' household income as our lower-level focal predictor. This time, the household income item was a close-ended question: Participants reported their monthly household income by choosing one of 22 categories ranging from 0 (no income) to 21 (more than ten million won). We assigned the midpoint income amount corresponding to the chosen category (e.g., we used 2,745,000 as the

income value when the respondents chose the sixth category [2,500,000 to 2,990,000]). To assign a value for the highest income category (more than 10 million won), we used Parker and Fenwick's (1983) Pareto curve-based formula.³ Then, we computed log-transformed equivalized income using the same approach used in Study 1 ($M = 5.04$, $SD = 1.05$).⁴

Income Inequality. We obtained the province-year-based Gini coefficients from Choi (2016) and used it as our higher-level focal predictor ($M = 0.37$, $SD = 0.04$).

Results

Analytic Strategy. We built the same multilevel model used in Study 1.

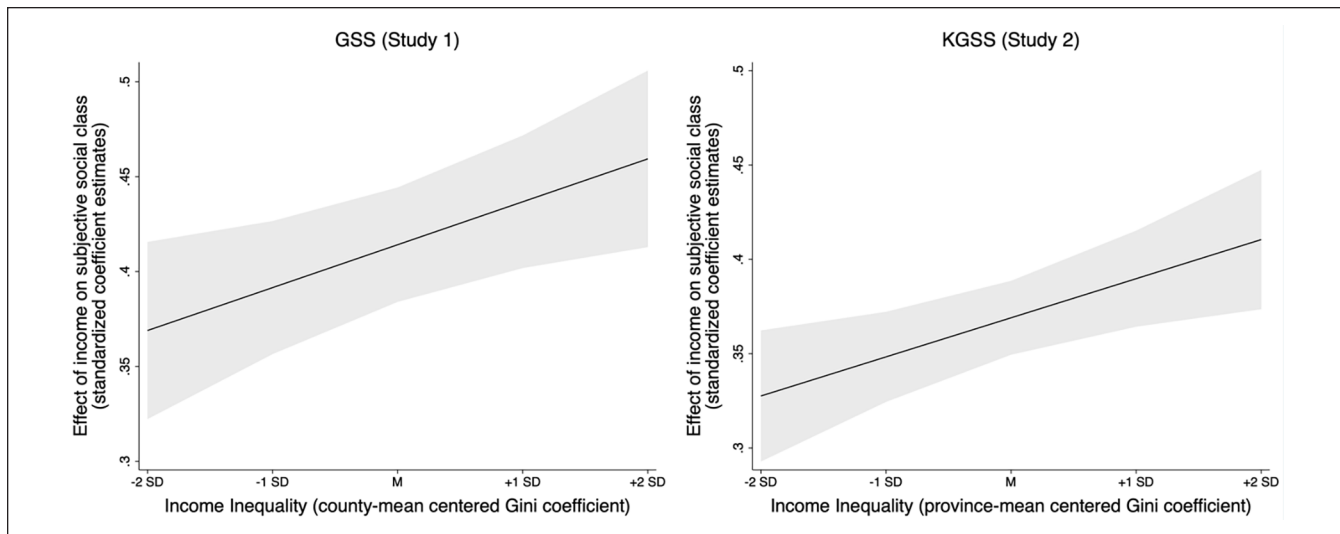


Figure 1. Graphical Representation of the Effect of Income (Standardized Coefficient) on Subjective Social Class as a Function of the Level of County (Study 1) and Province (Study 2) Income Inequality.

Note. The regression lines were obtained from the models without control variables. Shaded areas represent 95% confidence intervals. GSS = General Social Survey; KGSS = Korean General Social Survey.

Main Analysis. As expected and consistent with Study 1, our results showed a significant interaction between income and province-level income inequality on subjective social class, $B = 1.15$, $SE = 0.43$, 95% CI [0.32, 1.99], $p = .007$, (see Table 3 and Figure 1). As in Study 1, we probed this interaction by estimating simple slopes at high (+1 SD), and low (−1 SD) levels of income inequality, and we again computed the standardized estimates (in parentheses) to give a sense of the magnitude of the simple slopes (for a summary of the standardized estimates of the simple slopes, see Supplemental Table S1). Income was a stronger predictor of subjective social class in relatively unequal provinces, $B = 0.61$ ($\beta = .39$), $SE = 0.02$, 95% CI [0.57, 0.65], $p < .001$ than in relatively equal provinces, $B = 0.54$ ($\beta = .35$), $SE = 0.02$, 95% CI [0.50, 0.58], $p < .001$. The conclusion from the analysis remained similar when all lower-level and higher-level control variables were included in the model (see Table 3; for the results with standardized coefficients, see Supplemental Table S2).

Additional Analysis. As in Study 1, we incorporated the interaction term between years of education and income inequality into our main model, again anticipating that this interaction should not differ from zero. Consistent with our expectation, and consistent with Study 1, this additional analysis revealed that the interaction between years of education and income inequality on subjective social class was nonsignificant, while the interaction between income and income inequality was not statistically different from the interaction in the main model, though this time it was no longer significant, $B = 0.81$, $SE = 0.48$, $p = .091$ (for the full results, see Supplemental Table S3).

Discussion

In Study 2, we sought to replicate the findings observed in Study 1 within a non-Western cultural context. Just as in the United States, in South Korea, the association between income and subjective social class was found to be stronger in more unequal regions. Specifically, income becomes a stronger predictor of subjective social class as province-level income inequality increases. While research on cultural perspectives of social class often emphasizes psychological differences across cultures, our results underscore that individual income consistently interacts with local income inequality in predicting the perceptions of one's social class in both the U.S. and South Korean contexts.

General Discussion

In this research, we hypothesized that as income inequality rises, income becomes a more central component of an individual's self-perception of their status. Prior research testing such a cross-level interaction relied on the small number of higher-level units, leading to limited conclusions. To overcome this issue, we focused on the within-region effects of income inequality, which resulted in a large number of regional units over time. Specifically, we combined repeated cross-sectional data with local income inequality indicators in some of the most unequal countries in the West and the East: The United States and South Korea. In both studies, we found that the relationship between income and subjective social class was moderated by income inequality. Higher levels of county-level income inequality in the United States (Study 1) and province-level income inequality in South Korea (Study

2) were consistently linked to a stronger association between income and subjective social class. This suggests that income is a more central indicator for evaluating one's social class in more unequal places than in more equal places.

Description of the Phenomenon: Pattern of the Interaction and Effect Size

Across studies, we observed a stronger association between income and subjective social class in places with higher income inequality. However, even in regions where income inequality is relatively low, the positive relationship between income and subjective social class remained significant, underscoring the cross-situational predictive utility of income in accounting for variation in subjective social class. This result is perhaps unsurprising, given its alignment with existing research findings showing that income ranks as one of, if not the most important determinant of subjective social class, surpassing other factors such as educational level and occupational prestige (for a relevant review, see Cohen et al., 2019).

However, it is important to emphasize that even in regions where income inequality is less pronounced, the level of inequality still remains substantial. For instance, in the GSS, U.S. counties that are one standard deviation below the mean in terms of income inequality still have a Gini coefficient of .42. If this type of region were a country, it would rank among the top 20% of nations with the highest income inequality (WIID; UNU-WIDER, 2022; for the full list of countries with their Gini coefficients, see Supplemental Table S5). Thus, it is crucial to keep in mind that our study does not compare purely equal settings to unequal ones. Instead, our findings underscore the distinction between more unequal and somewhat less unequal contexts, especially in the United States.

It is also important to emphasize that, based on the differences in standardized estimates of simple slopes (see Supplemental Table S1), the deltas in the effect sizes of income at ± 1 *SD* of income inequality were relatively small across both studies ($\Delta[\beta] \approx .05$). While such a difference may appear small, it is not uncommon in the context of attenuated interactions, where the association between the predictor and the outcome is expected to decrease as the predictor increases, rather than being completely suppressed or reversed (Blake & Gangestad, 2020; Sommet et al., 2023). Additionally, even statistically modest effects can have substantial societal consequences when they persistently or simultaneously influence a large number of people (Greenwald et al., 2015). In our case, even small effects of income inequality may hold practical significance, as they can accumulate through repeated instances for the same individual, manifesting in the daily lives of the rich and poor (Götz et al., 2022). Considering the upward trend of income inequality over the past decades—with 71% of the global population residing in countries where income inequality has

grown (United Nations, 2020)—it is plausible that these trends have left a lasting imprint on millions of individuals.

Implications for the Study of the Downstream Consequences of Income Inequality

Influential scholars have put forth the idea that income inequality negatively affects the majority of the population, not just individuals with lower income (e.g., Wilkinson & Pickett, 2010). Our research, however, provides a more nuanced perspective. Our findings shed light on a portion of the mechanism that explains why heightened income inequality might be more aversive for individuals with lower income, while not necessarily affecting those with higher income. On the one hand, income inequality may lead individuals at the lower end of the income distribution to feel the weight of upward comparisons with wealthier individuals, leading to a diminished perceived subjective social class and potentially negative downstream psychological consequences. On the other hand, income inequality may lead individuals at the top of the income distribution to experience the beneficial effects of downward economic comparisons, resulting in a higher perceived subjective social class and potentially positive downstream psychological consequences (for theoretical models positing dual psychological effects of income inequality, see Cheung, 2016; Hirschman & Rothschild, 1973; Sommet & Elliot, 2023b). Given the critical role that subjective social class plays in determining a range of important everyday life outcomes, our results align with several key findings in the literature. For example, income inequality leads people at the bottom of the income distribution to report more financial hardship and anxiety (Jachimowicz et al., 2020; Sommet et al., 2018), whereas income inequality leads people at the top of the income distribution to feel decreased status anxiety (Bartram, 2022).

As such, our results enhance our ability to predict the downstream consequences of income inequality. For instance, as increasing income inequality makes individuals with fewer economic resources feel lower in terms of subjective social class, it is likely to lead them to have diminished feelings of control. A key result from research on the psychology of social class is that individuals who self-identify as belonging to a lower social class often experience a lack of control over their life (e.g., Barling & Weatherhead, 2016; Daganzo & Bernardo, 2018; Kraus et al., 2009). Previous research has demonstrated that individuals who experience a sense of powerlessness or perceive their own life outcomes to be out of their control may experience negative consequences for their physical and mental well-being (e.g., Gallagher et al., 2014; Infurna & Gerstorf, 2014; Sommet & Spini, 2022). Future research could test whether the fact that income inequality reduces subjective social class among low-income groups leads to a decreased sense of control and poorer health outcomes.

In contrast, an increase in income inequality is likely to make wealthy individuals feel higher in terms of subjective social class and, by extension, more satisfied with the current political and economic system. Previous research has shown that having a high subjective social class can lead people to justify the social system (e.g., Brandt et al., 2020; Vargas-Salfate et al., 2018) or even oppose policies aimed at combating inequality (e.g., redistributive policies, Brown-Iannuzzi et al., 2015; Jackson & Payne, 2021). Future research could test whether the fact that income inequality increases subjective social class among the wealthy affects their reactions to inequality, such as their support for action to reduce inequality or their motivation for egalitarianism.

Cross-Cultural Perspectives

A number of studies have adopted a cross-cultural perspective to study social class (Curhan et al., 2014; Grossmann & Varnum, 2011; Miyamoto et al., 2018; Park et al., 2013; Torelli et al., 2014). These studies primarily focused on the psychological *consequences* of social class and revealed both cultural similarities and differences. For instance, Curhan et al. (2014) found that subjective and objective social class predicted well-being in both the United States and Japan, but the strength of these associations varied across the two countries. Specifically, subjective social class was more strongly correlated with well-being in the United States than in Japan, while objective social class showed the opposite pattern. As another example, research shows that individuals from higher social classes exhibit greater narcissism than those from lower social classes in both Western and Eastern contexts (Aluja et al., 2022), while another dark triad personality trait, Machiavellianism, showed a positive association with social class in the Eastern contexts (e.g., China), but not in Western contexts (e.g., the United Kingdom; Luo et al., 2023).

In contrast to these existing studies, our research delved into the *determinants* of subjective social class, but it also suggests that there are both cultural similarities and differences. On one hand, we consistently found that income inequality strengthens the effect of income on subjective social class in both the United States and South Korea. On the other hand, the main effect of income appears to be descriptively stronger in the United States ($\beta = .41$) than in South Korea ($\beta = .37$).⁵ These differences may reflect cultural disparities between Western and Eastern contexts in the conceptualization of what it means to be higher in social rank. In Western contexts, a higher social rank is typically associated with a focus on the self, whereas in East Asian contexts, a higher rank is related to both a focus on the self and others (for a relevant review, see Gobel & Miyamoto, 2023). Likewise, in the United States, social rank goes along with the notion of perceived competence, whereas in East Asia perceived warmth and principles of social responsibility, obligation, or reputation also play a significant role

(Na et al., 2015; Rule et al., 2010). Our own findings can be interpreted as showing that, in the United States perceptions of one's social rank are more anchored in individual economic achievement and objective factors such as income compared to South Korea. Importantly, this interpretation should be approached with caution. There is a growing recognition that nations may not always be the most appropriate unit of analysis for cross-cultural research (Minkov & Hofstede, 2014; Taras et al., 2016) and—despite having large nationally representative samples—we only compared two countries.

Limitations

Four limitations should be acknowledged. First, the present studies used observational data and, as such, do not allow us to draw causal inferences. Although the use of repeated cross-sectional data to estimate pooled within-region effects over time enabled us to approach causality better than single-point cross-sectional data (for a relevant discussion, see Grosz et al., 2020), prospective studies using longitudinal or time-series designs are warranted.

Second, the current samples were limited to developed countries. Although the two countries examined in this research were from two very different cultural contexts, studies using samples from developing countries are needed to test the generalizability of our findings.

Third, our research relies solely on the Gini coefficient as an income inequality indicator. Even though the Gini coefficient has shown strong correlations with a variety of alternative income distribution indicators such as quantile ratios (e.g., Kawachi & Kennedy, 1997), future investigations might benefit from examining if similar findings emerge when using more fine-grained indicators (for a relevant review, see Jachimowicz et al., 2022). In particular, future research could test whether indicators that differentiate between income inequality shaped by extreme poverty or extreme wealth—such as the Ortega parameters—might influence the relationship between income and subjective social class (Blesch et al., 2022).

Fourth, our study did not explore underlying mechanisms, as neither the GSS nor the KGSS included variables that tapped into potential psychological processes accounting for the observed interaction effect. One plausible explanation for our findings is that income inequality is associated with stronger income comparison effects (for relevant research, see Cheung & Lucas, 2016). Income inequality could prompt both affluent and less affluent individuals to engage more in upward and downward comparisons, leading them to perceive themselves as either relatively advantaged or disadvantaged, respectively. Future research could use longitudinal designs to investigate this hypothesis, examining how both income inequality and income mobility over the life course influence the direction of income comparisons, and relate to changes in subjective social class.

Conclusion

Despite these limitations, the present research provides the most reliable evidence to date that the association between income and subjective social class depends on the level of income inequality. Across one Western and one Eastern country, our findings suggest that areas with higher income inequality lead to a lay conceptualization of subjective social class that is more strongly rooted in income.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research was funded by the Young Researchers' Exchange Program between Korea and Switzerland carried out by the National Research Foundation (NRF) of Korea and the Swiss Federal Institute of Technology (ETH) of Zurich (#2018K1A3A1A14090735) to the first author. This work was also funded by a SNSF Ambizione fellowship granted to N. Sommet (#PZ00P1_185979).

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Supplemental Material

Supplemental material is available online with this article.

Notes

1. We used the meta-analytic dataset and the R script provided by Tan and her colleagues (<https://osf.io/nzx28/>) and found that the test of homogeneity for the meta-analytic association between income and the ladder measure was, $Q(df = 140) = 3,290, p < .001$ with an I^2 of 95.70.
2. In contrast to Study 1, subjective social class was not operationalized using a social class self-categorization item (i.e., self-perceived belonging to a particular social class), but rather by using a subjective socioeconomic status item (i.e., self-perceived position in the societal hierarchy). While the KGSS did include a social class self-categorization item, it had a large proportion of missing values ($\approx 65\%$), making it less suitable for our main analysis. However, as a robustness check, we replicated the model used in the main analysis while using this social class self-categorization item (1 = Lower-lower, 2 = Upper-lower, 3 = Lower-middle, 4 = Upper-middle, 5 = Lower-upper, 6 = Upper-upper). The conclusions drawn from the analysis were the same (see Supplemental Table S4).
3. The calculation of the midpoint value for the highest income category was executed in two steps: First, we used Henson's approach to calculate v . Specifically, we took the logarithm of the sum of the number of people in the highest category $n1$ and the number of people in the second highest category $n2$, and subtracted the logarithm of $n1$. This result was then divided by

the difference between the logarithm of the lower limit of the highest category $I1$ and the logarithm of the lower limit of the second highest category $I2$:

$$v = \frac{\log(n1 + n2) - \log(n1)}{\log(I1) - \log(I2)}$$

Second, we used Wright's approach to derive the median income value of the highest category:

$$\text{Midpoint income value} = 10^{\left(\frac{.301}{v}\right)}(I1)$$

4. Although the KGSS included an open-ended question assessing the actual value of income, this measure could not be used due to a significant number of missing entries (over 4,000). Nonetheless, we repeated the main analysis using this continuous income variable to construe equivalized income rather than the income category measure. The focal interaction remained the same, $B = 1.23, SE = 0.53, 95\% \text{ CI } [0.20, 2.26], p = .019$ (without controls) and $B = 1.08, SE = 0.54, 95\% \text{ CI } [0.03, 2.14], p = .044$ (with controls).
5. The standardized estimates were taken from the models without controls.

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