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Relationship between perceived economic inequality and redistributive preferences: The moderating role of attributions

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Abstract

Although the classical economic perspective contends that higher inequality increases support for redistribution, research has produced conflicting findings. Indeed, where some have observed a positive relationship between inequality and redistributive preferences, others have found no evidence of such a relationship. This inconsistency is referred to as the paradox of redistribution. We contend that this paradox may be partially due to people's attributions of inequality, that is, how they think about and understand inequality. From an ideological perspective, our study demonstrates that attributions of inequality moderate the relationship between economic inequality and redistributive preferences. First, in Study 1($N = 676$), we conducted a survey showing that perceived inequality positively correlated with redistributive preferences among people with external attribution tendency but negatively correlated with redistributive preferences among people with internal attribution tendency. Second, in Studies 2 ($N = 150$) and 3 ($N = 171$), we conducted two experiments where perceptions and attributions of inequality were primed at group and national levels, respectively. Similar to the results of Study 1, we found that the effect of primed perceived inequality on redistributive preferences was positive among people primed with external attribution tendency but dampened among those primed with internal attribution tendency. These findings partially explain the paradox of redistribution and illuminate ways to reduce inequality.

Keywords

perceived economic inequality, redistributive preferences, attributions of inequality, paradox of redistribution

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Introduction

Economic inequality has increased globally in recent decades. According to the 2022 World Inequality Report, the wealthiest 10% of the world's population account for nearly 75% of global wealth, whereas the bottom 50% account for only 2% of global wealth (Chancel et al., 2022). Increased economic inequality is linked to several adverse health and social consequences, such as decreased life expectancy, diminished well-being, and weakened social cohesiveness (Stancato et al., 2023; Wilkinson & Pickett, 2017). Governments can mitigate such adverse consequences by adopting redistributive policies to reduce inequality. However, despite rising inequality, these policies are not overly popular among the general public. For example, polling indicates that many ordinary Americans favor tax cuts for the wealthy and are against government expenditures on social welfare (Bartels, 2005).

Similarly, research on the classical economic argument that higher inequality should boost people's support for wealth redistribution has produced inconsistent findings (Meltzer & Richard, 1981). Indeed, where some studies have observed a positive relationship between inequality and redistributive preferences (e.g., Andersen & Curtis, 2015; Finseraas, 2009), others have found a null or even negative relationship (e.g., Ashok et al., 2016; Dallinger, 2010). Known as the paradox of redistribution, these contradictory findings have drawn considerable attention (Brown-Iannuzzi et al., 2017a, 2021; Georgiadis & Manning, 2012). However, the underlying mechanisms of

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this paradox remain poorly understood. We contend that this paradox may be partly due to people's attributions of inequality. In other words, redistributive preferences may not only depend on the level of inequality but also on how people think about and understand inequality. That is, we intend to explore the moderating role of attributions of inequality between economic inequality and redistributive preferences in an effort to resolve the paradox of redistribution.

Economic inequality and redistributive preferences

Economic inequality pertains to the degree of uneven distribution of wealth or income among individuals within a society, and comprises both objective and subjective (i.e., perceived) inequality (Brown-Iannuzzi et al., 2017a; Schmalor & Heine, 2022). While objective inequality is commonly measured by the Gini coefficient, subjective inequality relies on an individual's overall sense of how much inequality they perceive in society (Schmalor & Heine, 2022). Redistributive preferences (sometimes called demand or support for redistribution) refer to individuals' support for measures aimed at reducing inequality, such as taxation, social welfare, and wealth transfers (Choi, 2019; Xu et al., 2013). Whether involving objective or perceived inequality, the relationship between economic inequality and redistributive preferences has long been theoretically linked. According to the classical rational voter model, higher income inequality should lead to greater support for redistribution. Specifically, this model argues that: 1) In a majority-rule system, median-income voters play a decisive role in determining tax and redistribution policies. 2) These voters rationally weigh the benefits of government transfers against the costs of taxation, aiming to maximize their personal interests. 3) As income inequality increases, the median-income voter's earnings fall further below the mean, making redistribution more attractive. Since redistribution is primarily funded by taxing higher-income individuals, median-income voters receive more in government transfers than they lose in taxes. As a result, they develop a stronger preference for higher taxes and expanded redistribution.

In line with this view, using objective or subjective indicator, some researchers have found a positive relationship between economic inequality and redistributive preferences (e.g., Andersen & Curtis, 2015; Finseraas, 2009; Schmidt-Catran, 2016). For example, analyzing 2002 European Social Survey data, Finseraas (2009) found that citizens residing in nations with greater inequalities were more inclined to support redistribution. Compared to Denmark, which has the lowest level of inequality (Gini = 22), citizens' support for redistribution was 23% higher in Portugal, the nation with the greatest level of inequality (Gini = 37). Similarly, using data from the International Social Survey 2019, García-Castro et al. (2022) found that the higher the perceived inequality, the higher the redistributive preferences.

However, other researchers have found null or even negative relationship between economic inequality and redistributive preferences (e.g., Dallinger, 2010; Kuziemko et al., 2015). For example, by experimenting, Kuziemko et al. (2015) manipulated participants' perceived inequality. In the perceived inequality condition, participants utilized an interactive and customized platform to learn the inequality levels of their nation. Participants in the control condition were not exposed to any information about inequality. Results showed that perceived inequality led to only a slight and non-significant increase in support for some redistributive policies, such as the food stamps program. Using time-series data from 1952 to 2006, Dallinger (2010) even observed the negative relationship between rising inequality and Americans' support for social welfare.

The so-called paradox of redistribution has attracted considerable attention (Brown-Iannuzzi et al., 2017a, 2021; Georgiadis & Manning, 2012). This paradox suggests that the effect of inequality on redistributive preferences may not only operate through economic interests, as contended by the classical economic perspective, but depend on other factors as well. Some scholars have discussed possible factors from economic or social perspectives (Brown-Iannuzzi et al., 2017a; Kuziemko et al., 2015; Schmidt-Catran, 2016). For instance, Kuziemko et al. (2015) found that higher inequality does not lead to higher support for redistribution in some countries because of low government credibility. Although these studies have provided useful insights, there may also be some underlying psychological factors that influence the relationship between inequality and redistributive preferences. Therefore, different from the previous economic or social perspectives, we will explain the redistribution paradox from a psychological perspective.

The moderating role of attributions

We predict that the effect of inequality on redistributive preferences may fundamentally and partly depend on how people think about and understand inequality (i.e., attributions of inequality). In addition to economic or social perspectives, the ideological perspective contends that people's redistributive preferences are influenced by their fairness beliefs (Alesina & Angeletos, 2005; Brown-Iannuzzi et al., 2017b; Piff et al., 2020). More specifically, in adapting to living environments, people generate broad ideological beliefs about whether the status quo is fair, what is fair, and how inequality is formed. These beliefs can also influence attitudes toward redistribution. In this respect, attributions of inequality are typical fairness beliefs. They refer to the psychological process through which individuals or groups explain the causes of inequality (Davidai, 2022). Weiner's attribution theory posits that an

individual's interpretation of the outcomes of an event can be categorized into three dimensions: locus of control, stability, and controllability. These attribution styles, in turn, profoundly influence one's emotions, motivation, and subsequent behaviors (Weiner, 1986). Research has increasingly focused on the locus-of-control dimension due to its intuitive nature (Davidai, 2022; Kraus et al., 2009; Piff et al., 2020). This focus has simplified attribution theory, enhancing its applications in various areas (Liu, 2010), facilitating the development of standardized attribution measures (Bastias et al., 2024), and revealing cross-cultural differences in attributions (Choi et al., 1999).

The dimension of locus of control in inequality attributions involves whether people attribute inequality to situational or structural factors, such as systemic disadvantages and unequal opportunities, or dispositional or individual attributions, such as ability and effort (Davidai, 2022). If individuals tend to make more situational or structural attributions of inequality, they likely think that inequality is less personally merited, and is thus relatively unfair. In contrast, more dispositional or individual attributions indicate that they think people are personally responsible for economic disparity and that the state of inequality is relatively fair (Alesina & Angeletos, 2005; Piff et al., 2020; Starmans et al., 2017). Following previous work (Davidai, 2022), we refer to an inclination toward more situational or structural attributions as an "external attribution" tendency, and the inclination toward more dispositional or individual attributions as an "internal attribution" tendency. Based on these views, attributions may moderate the effect of economic inequality on redistributive preferences. Put simply, the levels and attributions of perceived inequality jointly affect the sense of fairness: for individuals with an external attribution tendency, an increase in perceived inequality from low to high reduces their sense of fairness, thereby strengthening their support for redistribution. Conversely, individuals with an internal attribution tendency do not necessarily perceive higher inequality as unfair. Instead, they may retain their sense of fairness or even interpret increased inequality as signaling greater opportunities for advancement, which could enhance their perception of fairness. As a result, their redistributive preferences either remain relatively stable or decline as inequality rises.

Some research has initially proven the moderating role of attributions of inequality between economic inequality and redistributive preferences. For example, one study found that more situational attributions of poverty are associated with increased support for egalitarian policies (Piff et al., 2020). Other research found that among people who attribute getting ahead in life to individual effort and ambition, higher perceived inequality is associated with greater tolerance and acceptance of inequality (García-Sánchez, Van der Toorn et al., 2019; García-Sánchez, Willis et al., 2018). This emphasis on effort and ambition aligns with the concept of internal attributions of inequality. Such tolerance for greater inequality may result in stable or even diminished redistributive preferences. While such research implies the moderating role of attribution tendency between economic inequality and redistributive preferences, scholars have yet to directly investigate how this association varies with attributions tendency.

Based on these previous views and studies, we hypothesize that perceived inequality correlates positively with redistributive preferences among people with external attribution tendency. However, among those with internal attribution tendency, this relationship may be nonsignificant or even exhibit a reversed trend to some extent. In testing this hypothesis, we focus on perceived inequality. Because in contrast to objective inequality, perceived inequality (1) represents people's actual feelings about inequality, (2) helps to understand the psychological mechanisms between inequality and policy preferences, and (3) leaves room for manipulation to determine the causality of the above relationship (Brown-Iannuzzi et al., 2017a).

Current research

To examine our hypothesis, we performed three studies utilizing different methodologies. In Study 1, we employed a correlational methodology to examine our hypothesis using cross-sectional data, allowing us to determine whether the moderating role of attributions exists in the real world. However, correlational studies alone do not allow for causal inferences. It also makes sense that higher perceived inequality will lead those who oppose redistribution to make more deliberate internal attributions. Put simply, it is possible that redistributive preferences moderate the effect of perceived inequality on attributions of inequality. Therefore, to confirm the causality of the moderating effects, we adopted an experimental methodology in Studies 2 and 3. In these two studies, we primed both perceptions and attributions of inequality at the group and national level. By employing different methods, we hope to make our conclusions more robust.

All materials and data for our study can be found at https://osf.io/7pfum/files/osfstorage?view_only=923b37e8e25c463da3e4bccf51580804.

Study 1

Method

Participants. We conducted a prior power analysis using G*Power (Faul et al., 2007). Study 1 focused on a regression analysis involving three predictive variables and an outcome variable. Based on previous questionnaire studies testing the moderating effects of similar fairness beliefs, both revealed small effect sizes (García-Sánchez, Willis et al., 2018), and we set a small effect size ($f^2 = .02$), a higher power (power = .95) to identify better this potentially

small effect, and an alpha of .05. The results showed that at least 652 participants were required.

After obtaining approval from our institution's ethical committee, we recruited 700 participants through Credamo.com, a Chinese online participation platform with functions similar to Amazon.com's Mechanical Turk. Assured that their responses would remain confidential, all participants provided informed consent. After excluding overly quick, slow, or biased responses (e.g., all results have the same value), the sample comprised a total of 676 participants. In terms of participant characteristics, 435 (64.3%) participants were female, and the average age was 30.93 ($SD = 7.61$).

Procedure. Participants were asked to complete a set of questionnaires that included measures of perceived inequality, attributions of inequality, redistributive preferences, and demographic information. After completing these surveys, participants received a small monetary reward.

Measures. First, perceived inequality generally reflects the perception of an income or wealth disparity between the rich and poor. Accordingly, following common practices of previous research (García-Sánchez, Willis et al., 2018; Willis et al., 2015), participants were asked to estimate respectively: "How much do the top 1% of the population with the highest salaries and the bottom 1% with the lowest salaries earn each year before tax?" Following Heiserman and Simpson's (2021) methodology, we used detailed instructions, including boldface (see Supplementary Materials for Study 1), to ensure that participants fully understood this estimation task and answered correctly. We then log-transformed participant responses, and used the difference between the estimates to measure perceived inequality: ln (estimated earnings of highest-status people) -ln (estimated earnings of lowest-status people). Logarithms of ratios are common in income calculations because they can reduce the skewness of (estimated) income distributions and make them more normally distributed (see Jasso et al., 2016). In Study 1, a higher value for this index corresponds to higher perceived inequality.

Second, we measured the attributions of inequality using the rich–poor gap attribution questionnaire developed by Li (2014). At the beginning of the questionnaire, the instruction states, "In real society, some people are relatively poor, some people are relatively rich, so what do you think are the causes of the gap between the rich and the poor?" Then, the questionnaire lists eight internal (e.g., "individual abilities are different") causes and eight external causes (e.g., "education and employment opportunities are unequal"). Participants rated their agreement with each cause (item) on a 7-point scale ranging from 1 = totally disagree to 7 = totally agree. Based on established research practices (Hussak & Cimpian, 2015; Li, 2014; Rodríguez-Bailón et al., 2017), we calculated the difference between the internal and external causes (i.e., the internal and external attributions dimension) average as the measure score. Higher scores reflected an internal attribution tendency, whereas lower scores reflected an external one. The Cronbach's α coefficients for the two dimensions and the overall questionnaire were 0.89, 0.81, and 0.72, respectively.

Third, we measured redistributive preferences using five items modified from a Gallup Organization (1998) poll (see also Dawtry et al., 2015). Each item includes an opposing view about redistribution on the left and a supporting one on the right (e.g., "our government should not redistribute wealth by imposing heavy taxes on the rich" and "our government should redistribute wealth by imposing heavy taxes on the rich"). Participants rated their agreement tendency with each item's two views on a 10-point scale ranging from 1 = complete agreement with the left view to 10 = complete agreement with the right view (between 1 and 10, a higher point indicated more agreement with the right view and less agreement with the left view). We emphasized the role of the government in item statements because redistributive activities—including taxation, social welfare, and public services—are usually government-led, especially in China (Li, 2012; Li et al., 2022). We averaged the participants' responses to all items to form a measure score, with a higher score indicating higher redistributive preferences. The Cronbach's α for the five items was 0.78.

Finally, we gathered participants' demographic characteristics, including age, sex, and objective socioeconomic status (SES). We measured objective SES using a common indicator: occupation (Bai et al., 2021; Kraus & Stephens, 2012; Xu et al., 2020). Participants selected or provided their occupations. Using the recoding rule (Liu, 2007; Lu, 2002), participants' occupations were recoded into seven categories: 1 = unemployed or partially employed, 2 = unskilled or manual laborers, 3 = skilled workers, 4 = clerical staff or small business owners, 5 = lower-middle-class occupations, 6 = upper-middle-class occupations, and 7 = upper-class occupations.

Results

Descriptive statistics and correlation analyses. Table 1 presents the results of descriptive statistics and correlation analyses. It shows that attribution tendency correlated negatively with perceived inequality ($r = -.22$, $p < .001$) and redistributive preferences ($r = -.29$, $p < .001$). However, the correlation between perceived inequality and redistributive preferences was not significant ($r = .06$, $p = .11$).

Moderated model analysis. We employed multiple regression analysis to examine our hypothesis regarding the relationship between perceived inequality and redistributive preferences, namely, that it is positive among people with external attribution tendency but nonsignificant or even reversed to some extent among people with internal attribution tendency. All predictive variables were

Table 1. Results of descriptive statistics and correlation analyses

	M	*SD*	1	2	3	4	5	6
1. Sex	.64	.48	–					
2. Age	30.93	7.61	−.14***	–				
3. SES	4.51	1.19	−.04	.18***	–			
4. PI	6.91	2.90	.09*	−.11**	−.04	–		
5. AT	−.05	1.33	.04	.03	.18***	−.22***	–	
6. RP	7.38	1.48	−.12**	.03	.02	.06	−.29***	–

Note: The codes for gender are: 0 = male, 1 = female; PI = perceived inequality; AT = attribution tendency; RP = redistributive preferences; $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

z-standard. First, we inputted the control variables of sex, age, and objective SES. We controlled these variables since we were intrigued by the effect of perceived inequality, independent of these demographic characteristics, on redistributive preferences (see also Brown-Iannuzzi et al., 2021; García-Sánchez, Willis et al., 2018).[1] In the second and third steps, we inputted perceived inequality, attribution tendency, and their interaction. As Table 2 shows, after controlling for these demographic characteristics, in Step 2, the effect of perceived inequality was not significant ($B = .02$, $SE = .06$, $p = .39$, 95%CI = [−.09, .13]), while the effect of attribution tendency was significant ($B = -.44$, $SE = .06$, $p < .001$, 95%CI = [−.55, −.33]). More importantly, their interaction in Step 3 was significant ($B = -.15$, $SE = .05$, $p = .003$, 95%CI = [−.25, −.05]).

Table 2. Results of the multiple regression analysis on redistributive preferences

Predictor	*B*	*SE*	*t*	95% CI
Step1($\Delta R^2 = .02$)				
Sex	−.18	.06	−3.15**	[−.29, −.07]
Age	.02	.06	.30	[−.10, .13]
SES	.01	.06	.19	[−.10, .12]
Step2($\Delta R^2 = .08$)				
PI	.02	.06	.34	[−.09, .13]
AT	−.44	.06	−7.59***	[−.55, −.33]
Step3($\Delta R^2 = .01$)				
Interaction	−.15	.05	−2.96**	[−.25, −.05]

Note: The codes for gender are: 0 = male, 1 = female; PI = perceived inequality; AT = attribution tendency; $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

Given our moderating variable was continuous and had no particular focal value, following the researchers' suggestion (Spiller et al., 2013), we adopted the Johnson–Newman technique for the further simple effect test. Figure 1 illustrates the simple effect of perceived inequality on redistributive preferences when attribution tendency changes from negative to positive. Since the attribution tendency was scored by subtracting the external attribution dimension from the internal attribution dimension, a more negative value indicates a stronger tendency toward external attribution, while a more positive value indicates a stronger tendency toward internal attribution. The results showed that among individuals with external attribution tendency (attribution tendency < −.72), perceived inequality correlated positively with redistributive preferences (*B* is significantly greater than 0). In contrast, among those exhibiting internal attribution tendency (attribution tendency >1.24), this relationship became negative (*B* is significantly less than 0).

Discussion

In Study 1, aligned with our hypothesis, the relationship between perceived inequality and redistributive preferences varied among individuals with different attribution tendencies. Specifically, the results revealed that perceived inequality correlated positively with redistributive preferences among individuals with external attribution tendency but significantly negative among individuals with internal attribution tendency. These findings were similar to those of previous studies that found that among people who attribute getting ahead in life to individual effort and ambition, higher perceived inequality is associated with greater tolerance and acceptance of inequality (García-Sánchez, Van der Toorn et al., 2019; García-Sánchez, Willis et al., 2018). However, compared to these studies, our findings provide direct evidence of the moderating role of overall attribution tendency between perceived inequality and redistributive preferences. As Study 1 adopted a correlational approach and did not allow for causal inference, we conducted Study 2 to confirm the moderating effects' causality and reinforce our conclusions' robustness.

Study 2

Methods

Participants. We conducted a prior power analysis using G*Power (Faul et al., 2007). Study 2 focused on an analysis of variance (ANOVA) involving two between-subjects variables and one dependent variable. Based on the

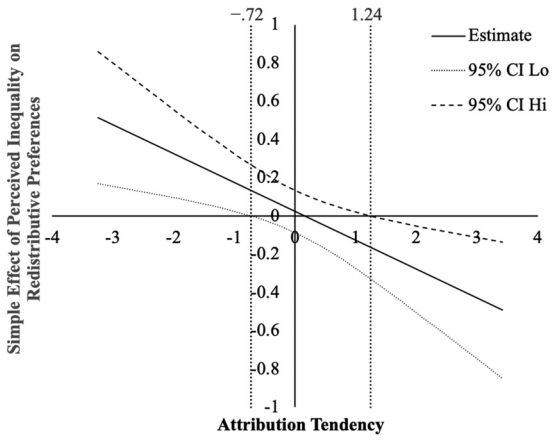

Figure 1. Simple effect test of Study 1.

previous experimental study that examined similar fair beliefs' moderating effect on perceived inequality and ideal inequality showing a medium effect size (Willis et al., 2015), we set a medium effect (f = 0.25), as usual practices a high power (power = .80, Cohen, 1992), and alpha of .05. The result showed that at least 128 participants were required. After obtaining approval from our institution's ethical committee, we recruited 160 participants through Credamo.com, the same platform used in Study 1. All participants provided informed consent, with assurances that their responses would remain confidential. After excluding those who failed the reading check questions or answered too long or too short, the final sample for Study 2 comprised 150 participants. In terms of demographic characteristics, 71 (47.3%) participants were female and the average age was 31.42 ($SD = 9.09$).

Experimental design and procedure. Study 2 utilized a 2(primed perceived inequality: high vs. low) × 2 (primed attributions of inequality: external vs. internal) between-group design, with redistributive preferences as the dependent variable. Upon accessing the online platform, participants were provided with experimental requirements and randomly allocated to different conditions to accomplish the two tasks. First, they viewed a pie chart to manipulate perceived inequality. Second, they read a short paragraph priming their attributions of inequality. Finally, they completed a redistributive preference questionnaire and provided demographic information (i.e., gender and age). Participants who completed all the experimental activities received a small amount of money as compensation for their participation.

Manipulations and measures. First, we manipulated perceived inequality using a pie chart frequently employed in previous research (Côté et al., 2015; Du et al., 2022). To exclude participants' existing knowledge of place inequality, we adapted this paradigm by depicting a fictitious town in which Groups A and B live. Under the condition of high perceived inequality, participants read a pie chart describing comparatively high unequal wealth distribution in this fictitious town, where Groups A and B hold 81% and 19% of the wealth, respectively. Under the condition of low perceived inequality, participants read a pie chart describing comparatively low unequal wealth distribution in the town, where Groups A and B held 52% and 48% of the wealth, respectively. After viewing one of the pie charts, participants answered the question: "What do you think of the wealth gap between Group A and Group B?" Participants expressed their views on a 7-point Likert scale ranging from 1 = much too small to 7 = much too large, which we used as a manipulation check.

Second, we manipulated the attributions of inequality using an adapted paradigm frequently used in previous research (Bai et al., 2023; Piff et al., 2020). In the external attribution condition, participants read a short paragraph describing a structural factor (i.e., family heritage) that contributed to the wealth gap between Groups A and B. In contrast, in the internal attribution condition, participants read a short paragraph elucidating an individual factor (i.e., diligence) that caused this wealth gap.

More specifically, in the external attribution condition, participants read the following paragraph:

> Through interviews, we learned that Groups A and B were engaged in farming as their primary occupations. Group A is richer than Group B because Group A not only farms but inherited some real estate from their ancestors, allowing them to rent houses and collect rent as an alternative source of income.

Meanwhile, in the internal attribution condition, participants read the following paragraph:

> Through interviews, we learned that Groups A and B were engaged in farming as their primary occupations. Group A was richer than Group B because they were more diligent than Group B. In addition to farming, they established various industries, such as agritainment and aquaculture, during the non-busy farming season. Group B only worked during farming seasons and preferred playing cards and engaging in entertainment during non-busy farming seasons.

After reading one of the paragraphs, participants answered two questions: "To what extent do you think the wealth gap between Groups A and B is caused by internal individual factors?" and "To what extent do you think the wealth gap between Groups A and B is caused by external structural factors?" Participants expressed their views on a 7-point scale ranging from 1 = not at all to 7 = to a large extent. Following the same scoring

approach as in Study 1, we calculated the score difference of the two questions as a manipulation check.

Third, as in Study 1, we measured redistributive preferences using five items from a Gallup Organization (1998) poll. Statements were slightly modified to make them more suitable for the current experimental scenario. For example, for one of the items, the modified statements were "local government should not redistribute wealth by imposing heavy taxes on Group A" and "local government should distribute wealth by imposing heavy taxes on Group A" (1 = complete agreement with the left view, 10 = complete agreement with the right view). Following the same scoring approach as in Study 1, we used an average of all items as the measurement score. In this study, Cronbach's α for the five items was 0.90.

Results

Manipulation checks. To validate our manipulations of perceived inequality and attributions of inequality, we performed an independent *t*-test twice. Results showed that participants in the high inequality condition reported higher perceived inequality ($M = 6.24$, $SD = .61$) than those in the low inequality condition ($M = 3.19$, $SD = 1.54$, t (91.23) = 3.05, $p < .001$, Cohen's $d = 2.60$). Similarly, participants in the internal attribution condition ($M = 4.06$, $SD = 1.85$) exhibited higher internal attribution tendency than participants in the external attribution condition ($M = -3.88$, $SD = 1.76$, t (148) = 26.87, $p < 0.001$, Cohen's $d = 4.40$). These findings indicate that both manipulations of perceived inequality and attribution for inequality were effective.

Hypothesis testing. We tested our hypothesis using a 2(perceived inequality) × 2 (attributions of inequality) ANOVA of redistributive preferences. Results showed that the main effect of perceived inequality was significant (F (1, 146) = 35.89, $p < .001$, $\eta^2_p = .20$), as was the main effect of attributions of inequality (F (1, 146) = 61.81, $p < .001$, $\eta^2_p = .30$). More importantly, the interaction between them was also significant (F (1, 146) = 14.56, $p < .001$, $\eta^2_p = .09$).

Figure 2 shows the results of further simple effect analysis. As expected, in the external attribution condition, participants in the high-perceived inequality condition ($M = 6.27$, $SE = .28$, 95% CI = [5.72, 6.81]) exhibited higher redistributive preferences than those in the low-perceived inequality condition ($M = 3.57$, $SE = 0.28$, 95% CI = [3.02, 4.13], F(1, 146) = 47.99, $p < .001$, $\eta^2_p = .25$). In contrast, in the internal attribution condition, there was no significant difference in redistributive preferences between participants in the high- ($M = 3.06$, $SE = .26$, 95% CI = [2.54, 3.58]) and low- ($M = 2.46$, $SE = .28$, 95% CI = [1.91, 3.01], F(1, 146) = 1.45, $p = .23$, $\eta^2_p = .01$) perceived inequality conditions.

Discussion

Study 2 further confirmed our hypothesis that attributions moderated the relationship between perceived inequality and redistributive preferences. Specifically, the results showed that the effect of perceived inequality on redistributive preferences was significant in the external attribution condition but nonsignificant in the internal attribution condition. Moreover, this experimental study confirmed the causality of moderating effect. According to the literature (Brown-Iannuzzi et al., 2017b), higher perceived inequality may lead those who oppose redistribution to make more internal attributions deliberately. In other words, redistributive preferences may moderate the effect of perceived inequality on the attributions of inequality. However, using an experiment, Study 2 confirmed the causality of the moderating role of attributions of inequality. Significantly, the results suggest that attributions of inequality were not necessarily post hoc justifications but the causes of the different effects of perceived inequality on redistributive preferences.

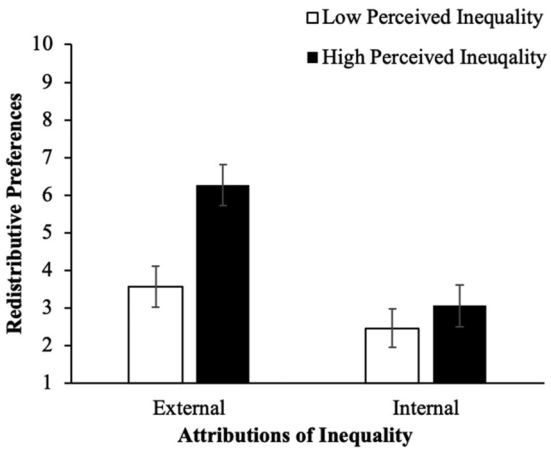

Figure 2. Simple effect analysis of redistributive preferences.
Note: The error interval = 95% CI.

However, some may believe that family heritage used in our manipulations is partly due to family efforts and cannot be seen as an entire structural factor of inequality. Therefore, to increase the reliability of our findings, we used more widely accepted structural factors in the external attribution condition of Study 3. Specifically, in the experiment of Study 3, along with manipulating perceptions and attributions of inequality at the national level, we used priority policies and industry differences to prime external attributions. In addition, to increase the reliability of our findings, we used an additional indicator to measure people's redistribution preferences.

Study 3

Methods

Participants. We performed the same prior power analysis as Study 2 using G*Power (Faul et al., 2007). Similarly, the results showed that at least 128 participants were

required. We recruited 200 participants on the Credamo platform. After removing the participants who failed the reading check questions or answered too long or too short, the final valid number of participants was 171. Among them, 52% were female, and the average age of the participants was 31.66 years ($SD = 6.75$).

Experimental design and procedure. The experimental design and procedure were the same as those implemented in Study 2.

Manipulations and measures. First, we manipulated perceived inequality at the national level. To exclude participants' existing inequality knowledge about a specific country, we adapted the previous study paradigm (Côté et al., 2015; Du et al., 2022) by describing a fictitious country: "Imagine that on the blue planet, there is a country called Heanie. The country's envoys conducted a nationwide wealth survey and ranked the wealth of the country's citizens from highest to lowest. The survey results were as follows." In the high-perceived inequality condition, participants were shown a pie chart indicating that the top 20% of the population owned 81% of Heanie's wealth, while the second 20% owned 11%, the middle 20% owned 4%, the fourth 20% owned 3%, and the bottom 20% owned just 1%. In contrast, participants in the low-perceived inequality condition viewed a pie chart where wealth distribution was more balanced, with each 20% of the population owning approximately 20% of the total wealth (26%, 20%, 19%, 18%, and 17%, respectively). After viewing one of the pie charts, participants answered the question: "What do you think about the wealth gap in Heanie? (1 = much too small, 7 = much too large)," which we used as a manipulation check.

Second, we manipulated the attributions of inequality. Following the previous study paradigm (Bai et al., 2023; Piff et al., 2020), we presented a short paragraph to describe the causes of the wealth gap in Heanie. Unlike the external attribution condition of Study 2, which used family heritage as a structural factor, Study 3 used more agreed structural factors (i.e., national priority development policy and industry differences).

In the external attribution condition, the key part of the paragraph reads as follows:

> The survey shows that the difference in wealth distribution in Heanie is closely related to national policies and industry development. As a result of the government's policy of prioritizing development, the top 20% of the population live in regions with six foreign trade ports. In contrast, the other regions have two open ports, which makes some difference in economic opportunities. Because of the different degrees of openness in different regions, some people can be more involved in high-yield industries such as foreign trade and tourism and have gradually increased their wealth …

In the internal attribution condition, the key part of the paragraph reads as follows:

> The survey shows that the difference in wealth distribution in Heanie is closely related to work attitudes and financial habits. For example, the top 20% work an average of 60 h per week, while the rest work an average of 30 h. This difference in working hours affects their income level. In addition, the wealthier people in Heanie are more inclined to save and invest rather than just spend …

After reading one of the paragraphs, participants answered two questions: "To what extent do you think the wealth gap in Heanie is caused by internal individual factors?" and "To what extent do you think the wealth gap in Heanie is caused by external structural factors?" (1 = not at all, 7 = to a large extent). We calculated the score difference of the two questions as a manipulation check.

Third, we measured redistributive preferences using five items similar to those employed in Study 2. We slightly modified statements to make them more suitable for the current experimental scenario. In this study, Cronbach's α for the five items was 0.96. In addition, to improve the ecological validity of our Study, we included an extra question to measure participants' redistributive preferences. Specifically, we asked participants, "If the situation in Heanie happened in your country, would you support a more powerful government policy to eliminate the gap between rich and poor?" (1 = strongly unsupportive, 7 = strongly supportive).

Results

Manipulation checks. Results of the independent *t*-test showed that participants in the high inequality condition reported higher-perceived inequality ($M = 6.36$, $SD = .74$) than those in the low inequality condition ($M = 3.30$, $SD = 1.50$, t (128.70) = 17.07, $p < .001$, Cohen's $d = 2.59$). Participants in the internal attribution condition ($M = 3.69$, $SD = 1.84$) showed a higher internal attributions tendency than those in the external attributions condition ($M = -3.88$, $SD = 1.76$, t (169) = 27.53, $p < .001$, Cohen's $d = 4.20$). These results suggest that both manipulations of perceived inequality and attributions of inequality in Study 3 were effective.

Hypothesis testing. To test our hypothesis, we conducted 2(perceived inequality) × 2 (attributions of inequality) ANOVA of participants' redistributive preferences toward Heanie and their own country, respectively. The results showed that in both cases, the interaction between perceived inequality and attributions of inequality was significant (F (1, 167) = 4.17, $p = 0.043 < .05$, $\eta_p^2 = .02$; F (1, 167) = 4.14, $p = 0.044 < .05$, $\eta_p^2 = .02$).

Figure 3a shows a simple effect analysis of participants' redistributive preferences toward Heanie. The results

showed that in the external attribution condition, participants in the high-perceived inequality group ($M = 8.24$, $SE = 0.17$, 95%CI = [7.88, 8.58]) exhibited higher redistributive preferences than those in the low-perceived inequality group ($M = 5.75$, $SE = 0.35$, 95%CI = [4.99, 6.41], $F(1, 167) = 31.18$, $p < .001$, $\eta_p^2 = 0.16$). In contrast, in the internal attribution condition, differences in the redistributive preferences between the two groups were significant but weaker ($M = 4.50$, $SE = 0.39$, 95%CI = [3.77, 5.30]; $M = 3.25$, $SE = .28$, 95%CI = [2.71, 3.83], $F(1, 167) = 9.24$, $p = 0.003 < 0.01$, $\eta_p^2 = 0.05$). Figure 3b shows a simple effect analysis of participants' redistributive preferences toward their own country when they imagined that the situation in Heanie occurred in their own country. Similarly, in the external attribution condition, there was a significant difference in the redistributive preferences between participants in the high- ($M = 6.40$, $SE = 0.11$, 95%CI = [6.20, 6.60]) and low-perceived inequality groups ($M = 4.64$, $SE = 0.28$, 95%CI = [4.09, 5.18], $F(1, 167) = 23.10$, $p < 0.001$, $\eta_p^2 = 0.12$). In the internal attributions condition, the difference in redistributive preferences between the two groups was weaker ($M = 3.88$, $SE = 0.31$, 95%CI = [3.28, 4.46]; $M = 3.14$, $SE = 0.26$, 95%CI = [2.67, 3.64], $F(1, 167) = 4.83$, $p = 0.029 < 0.05$, $\eta_p^2 = 0.03$).

Discussion

In Study 3, to improve the reliability of our findings, we used more widely accepted structural factors (i.e., nation priority development policy and industry differences) in the external attribution condition. In addition, we used an extra indicator that was more relevant to the participants to measure their redistributive preferences. Again, we found that attributions moderated the relationship between perceived inequality and redistributive preferences. Specifically, the effect of perceived inequality on redistributive preferences was significantly positive in the external attribution condition. Slightly different from our hypothesis, this effect is not nonsignificant or negative but weaker positive in the internal attributions condition. We will discuss these differences in the next section.

General discussion

We conducted three studies to examine the moderating role of attributions of inequality between economic inequality and redistributive preferences. By adopting correlational and experimental methodology, Studies 1, 2, and 3 obtained similar results, supporting our hypothesis that there is a positive relationship between perceived inequality and redistributive preferences among individuals with external attribution tendency but dampened or even reversed to some extent among those with internal attribution tendency.

Economic inequality and redistributive preferences

A lot of previous empirical findings have been inconsistent about the association between economic inequality and redistributive preferences (e.g., Andersen & Curtis, 2015; Ashok et al., 2016; Kuziemko et al., 2015). To explain these inconsistencies, we propose that a third variable plays a moderating role in this association: namely, attributions of inequality.

The results of all three studies suggested that attributions of inequality moderated the relationship between economic inequality and redistributive preferences such that a strongly positive relationship existed as the external (not internal) attribution tendency was held. In other words, when people believe that inequality was primarily caused by situational or structural factors (e.g., systemic disadvantages and unequal opportunities), higher-perceived inequality indeed elicits strongly higher redistributive preferences. However, when people believed that inequality was mainly caused by dispositional or individual factors (e.g., effort and ability), this positive association was dampened. It is worth noting that this dampening effect was slightly different across the three studies. That is, in the internal attribution condition, higher inequality leads to lower (Study 1), nonsignificant change (Study 2), and weakly higher redistributive preferences (Study 3), respectively.

These differences may arise from variations in inequality levels and attributions' controllability. In the survey of Study 1, participants' perceptions of inequality may exhibit not very large variation since most may come from regions with similar development level. When perceived inequality is not very high, individuals with an internal attribution tendency may believe that they have a chance to go ahead (Cheung, 2016). This can lead them to view the situation as fairer and to oppose redistribution. In the experiment of Study 2, we expanded the range of inequality from low (52% vs. 48%) to high (81% vs. 19%), which may result in greater variability. In this study, participants who perceived higher inequality as caused by effort might feel it is equally fair compared to low inequality, leading to no significant change in their redistributive preferences. Study 3's experiment had the same range of inequality as Study 2 but introduced an uncontrollable individual factor (financial ability/habit). When participants perceived higher inequality as partly caused by this uncontrollable factor, they may still feel it was slightly more unfair (Gonzalez et al., 2022), increasing their redistributive preferences.

Overall, These results align with the view that the general public is not bothered by inequality itself but by inequality resulting from unfair factors, especially situational or structural factors—that is, so-called "unfair" or "unjustifiable" inequality (see Alesina & Angeletos, 2005; Brown-Iannuzzi et al., 2021; Starmans et al., 2017).

Implications

Our study has both theoretical and practical implications. With respect to theoretical implications, on the one hand,

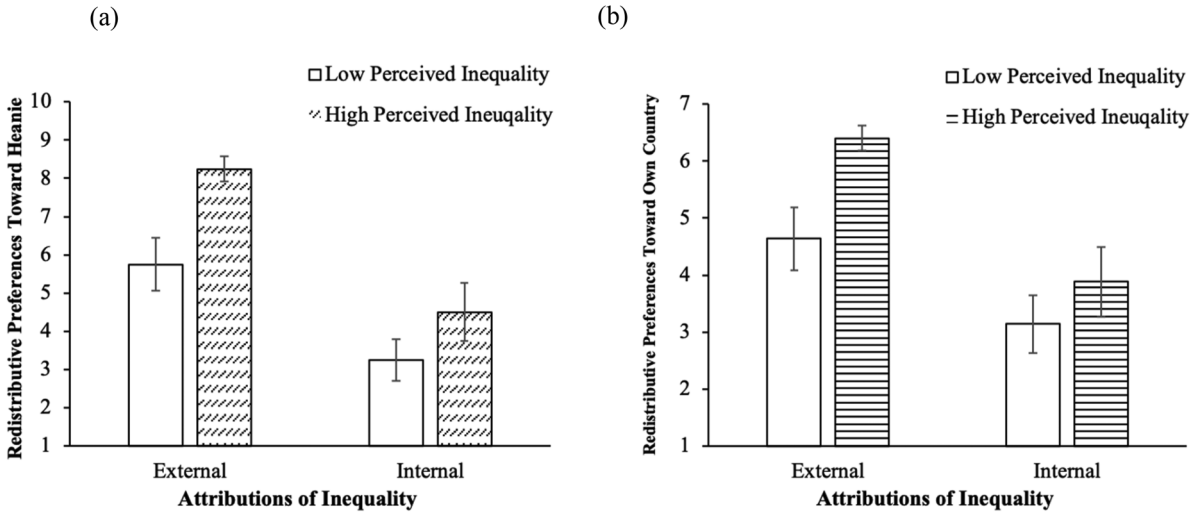

Figure 3. Simple effect analysis of redistributive preferences toward Heanie (a) and own country (b). *Note*: The value of dependent variables is 1 to 10(a) and 1 to 7(b); The error interval = 95% CI.

our study is the first to examine the interaction between two critical aspects of inequality—its level and its attributions (causes)—on redistributive preferences. Previous research has typically focused on only one of these aspects, either investigating the effects of inequality levels (e.g., Brown-Iannuzzi et al., 2021; García-Castro et al., 2022) or the attributions of inequality (e.g., Piff et al., 2020; Rodríguez-Bailón et al., 2017). By simultaneously investigating both effects of the two aspects, our study identified their interaction. Furthermore, we confirmed the causality of this interaction. If studied only through questionnaires, attributions can also be seen as post-justification of one's redistributive preferences (Brown-Iannuzzi et al., 2017b; García-Sánchez, Osborne et al., 2020). However, further experiments in Studies 2 and 3 show that attributions were not necessarily post-justification but indeed causes of people's different redistributive preferences in the face of higher inequality.

On the other hand, our study also contributes to understanding the redistributive paradox—why higher inequality does not always result in stronger redistributive preferences—by offering a psychological explanatory perspective. Previous attempts to explain this paradox have primarily adopted economic or social perspectives (e.g., Brown-Iannuzzi et al., 2017a; Kuziemko et al., 2015; Schmidt-Catran, 2016). For instance, one study has found that lower government credibility could explain why higher inequality failed to increase support for redistribution in some countries (Kuziemko et al., 2015). In contrast, our research, based on a psychological perspective, highlights the role of individuals' psychological beliefs about inequality (i.e., attributions). Despite rising inequality, some individuals, insulated by their social circles, perceive their social environments as relatively fair (Dawtry et al., 2015; Wienk et al., 2022). Over time, these individuals develop stronger internal attribution tendency, which lead them to attribute inequality to individual factors rather than systemic issues. As a result, they exhibit lower support for redistribution, even in the face of increasing inequality.

In terms of practical implications, our study highlights that people's primary concern regarding wealth distribution is unfairness rather than inequality itself. While calls to reduce inequality frequently appear in media discussions, our findings suggest that addressing the unfairness underlying the wealth gap may be more critical than reducing the gap itself. Specifically, our results suggest that higher perceived inequality leads to strongly higher redistributive preferences when people believe that inequality stems from situational or structural factors, not dispositional or individual factors. Therefore, the government should implement policies to narrow income gaps resulting from situational or structural factors (i.e., unfair inequality), such as gray and monopoly income. However, the government needs to protect and encourage income gaps resulting from (probably especially controllable) dispositional or individual factors (i.e., fair inequality), such as free competition and start-up income. Doing so will satisfy the public's redistributive needs, stimulate labor enthusiasm, and help promote social justice (Brown-Iannuzzi et al., 2017a; Sainz et al., 2023).

Limitations and future directions

Our study had several limitations. First, in Study 1, we used only the perceived income ratio to assess perceived inequality. Although this measure is widely used in previous studies (García-Sánchez, Willis et al., 2018; Willis et al., 2015), there are alternative ways to measure perceived inequality, such as stratification belief diagrams and inequality pie charts. These methods may yield different

perceptions of inequality (Heiserman & Simpson, 2021). Therefore, future research can incorporate multiple measures to cross-validate findings. Second, our findings were based solely on Chinese participants, which limits the generalizability of our results to Western or non-collectivist societies. Cultural differences may shape individuals' perspectives on redistributive policies and their tolerance for inequality (Hammar, 2019; Oishi et al., 2018). Thus, future research should conduct cross-cultural research to examine whether the interaction between perceptions and attributions of inequality varies across cultures. Third, we focused only on two levels of inequality (high and low) and a single attribution dimension (locus) as most previous studies did. As discussed earlier, the subtle differences in the results of our three sub-studies suggest that individuals may respond differently when exposed to varying levels of inequality (high, medium, low) and when inequality is attributed to internally controllable versus uncontrollable factors (Gonzalez et al., 2022). Hence, future research should try to regress on the multidimensional model of attribution theory (Weiner, 1986), exploring a broader range of inequality levels and attribution dimensions to uncover more nuanced patterns. Finally, there was a moderate correlation between our moderating and independent variables (i.e., attributions and perceptions of inequality) in Study 1 ($r = -.22$, $p < .001$). Ideally, a moderator should be uncorrelated with the independent variable (Weng et al., 2005). However, this correlation was relatively low (well below the high-correlation threshold of 0.7), meaning it did not introduce collinearity issues that could distort the estimation of the moderating effect (Cohen et al., 2003). Moreover, this weak correlation suggests that multiple factors beyond perceived inequality influence attributions. For example, political ideology, socioeconomic status, and broader social and economic trends can all shape attribution tendency (see Davidai, 2022, for a review). Hence, future research should further broadly explore how these factors directly or indirectly moderate the relationship between perceived inequality and redistributive preferences through attributions.

Conclusion

Using three studies adopting correlational and experimental methodology, we explored the moderating role of attributions of inequality between economic inequality and redistributive preferences. Both studies demonstrated that the association between economic inequality and redistributive preferences varied with attributions of inequality, such that this association was positive among individuals with external attribution tendency but dampened or even reversed to some extent among those with internal attribution tendency. In summary, by introducing a third variable, the findings of this study provide a psychological perspective on the long-standing paradox of redistribution and shed some light upon how to reduce inequality.

Author contributions

All authors contributed to the study conception and design. Material preparation, data collection, and analysis were performed by Jie Bai, Bu-Xiao Xu, and Shen-Long Yang. The first draft of the manuscript was written by Jie Bai and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

Consent

All participants provided informed consent.

Data availability statement

The data described in this article are openly available in the Open Science Framework at https://osf.io/7pfum/files/osfstorage?view_only=923b37e8e25c463da3e4bccf51580804.

Declaration of conflicting interests

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

Ethical approval

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Supplemental material

Supplemental material for this article is available online.

Note

1. We also ran models that we did not control for sex, age, and objective SES and found the results remained substantively unchanged. Please see the Supplemental Materials for additional information.

References

Alesina, A., & Angeletos, G. M. (2005). Fairness and redistribution. *American Economic Review*, *95*(4), 960–980. https://doi.org/10.1257/0002828054825655

Andersen, R., & Curtis, J. (2015). Social class, economic inequality, and the convergence of policy preferences: Evidence from 24 modern democracies. *Canadian Review of Sociology*, *52*(3), 266–288. https://doi.org/10.1111/cars.12077

Ashok, V., Kuziemko, I., & Washington, E. (2016). Support for redistribution in an age of rising inequality: New stylized facts and some tentative explanations. *Brookings Papers on Economic Activity*, *2015*(1), 367–433. https://doi.org/10.3386/w21529

Bai, J., Xu, B. X., Yang, S. L., & Guo, Y. Y. (2023). Why are higher-class individuals less supportive of redistribution? The mediating role of attributions for rich–poor gap. *Current Psychology*, *42*(20), 16883–16893. https://doi.org/10.1007/s12144-022-02836-2

Bai, J., Yang, S. L., Xu, B. X., & Guo, Y. Y. (2021). How can successful people share their goodness with the world? The psychological mechanism underlying the upper social classes' redistributive preferences and the role of humility. *Acta Psychologica Sinica*, *53*(10), 1161–1172. https://doi.org/10.3724/SP.J.1041.2021.01161

Bartels, L. M. (2005). Homer gets a tax cut: Inequality and public policy in the American mind. *Perspectives on Politics*, *3*(1), 15–31. https://doi.org/10.1017/S1537592705050036

Bastias, F., Peter, N., Goldstein, A., Sánchez-Montañez, S., Rohmann, A., & Landmann, H. (2024). Measuring attributions 50 years on: From within-country poverty to global inequality. *Behavioral Sciences*, *14*(3), 186. https://doi.org/10.3390/bs14030186

Brown-Iannuzzi, J. L., Lundberg, K. B., & McKee, S. E. (2017a). Political action in the age of high-economic inequality: A multilevel approach. *Social Issues and Policy Review*, *11*(1), 232–273. https://doi.org/10.1111/sipr.12032

Brown-Iannuzzi, J. L., Lundberg, K. B., & Mckee, S. E. (2017b). The politics of socioeconomic status: How socioeconomic status may influence political attitudes and engagement. *Current Opinion in Psychology*, *18*, 11–14. http://doi.org/10.1016/j.copsyc.2017.06.018

Brown-Iannuzzi, J. L., Lundberg, K. B., & McKee, S. E. (2021). Economic inequality and socioeconomic ranking inform attitudes toward redistribution. *Journal of Experimental Social Psychology*, *96*, 104180. http://doi.org/10.1016/j.jesp.2021.104180

Chancel, L., Piketty, T., Saez, E., & Zucman, G. (2022). World inequality report 2022. *World Inequality Laboratory.* Retrieved from https://wir2022.wid.world/.

Cheung, F. (2016). Can income inequality be associated with positive outcomes? Hope mediates the positive inequality–happiness link in rural China. *Social Psychological and Personality Science*, *7*(4), 320–330. https://doi.org/10.1177/1948550615619762

Choi, G. (2019). Revisiting the redistribution hypothesis with perceived inequality and redistributive preferences. *European Journal of Political Economy*, *58*, 220–224. https://doi.org/10.1016/j.ejpoleco.2018.12.004

Choi, I., Nisbett, R. E., & Norenzayan, A. (1999). Causal attribution across cultures: Variation and universality. *Psychological Bulletin*, *125*(1), 47–63. https://doi.org/10.1037/0033-2909.125.1.47

Cohen, J. (1992). A power primer. *Psychological Bulletin*, *112*(1), 155–159. https://doi.org/10.1037/0033-2909.112.1.155

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Lawrence Erlbaum Associates Publishers.

Côté, S., House, J., & Willer, R. (2015). High economic inequality leads higher-income individuals to be less generous. *Proceedings of the National Academy of Sciences of the United States of America*, *112*(52), 15838–15843. http://doi.org/10.1073/pnas.1511536112

Dallinger, U. (2010). Public support for redistribution: What explains cross-national differences? *Journal of European Social Policy*, *20*(4), 333–349. https://doi.org/10.1177/0958928710374373

Davidai, S. (2022). How do people make sense of wealth and poverty? *Current Opinion in Psychology*, *43*, 42–47. http://doi.org/10.1016/j.copsyc.2021.06.010

Dawtry, R. J., Sutton, R. M., & Sibley, C. G. (2015). Why wealthier people think people are wealthier, and why it matters: From social sampling to attitudes to redistribution. *Psychological Science*, *26*(9), 1389–1400. http://doi.org/10.1177/0956797615586560

Du, H., Chen, A., Li, Y., Ma, L., Xing, Q., & Nie, Y. (2022). Perceived income inequality increases status seeking among low social class individuals. *Asian Journal of Social Psychology*, *25*(1), 52–59. https://doi.org/10.1111/ajsp.12455

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, *39*(2), 175–191. http://doi.org/10.3758/BF03193146

Finseraas, H. (2009). Income inequality and demand for redistribution: A multilevel analysis of European public opinion. *Scandinavian Political Studies*, *32*(1), 94–119. http://doi.org/10.1111/j.1467-9477.2008.00211.x

Gallup Organization. (1998). Haves and have-nots: Perceptions of fairness and opportunity—1998 [Questions], Retrieved from http://www.gallup.com/poll/9877/havenots-perceptions-fairness-opportunity-1998.aspx.

García-Castro, J. D., García-Sánchez, E., Willis, G. B., Castillo, J. C., & Rodríguez-Bailón, R. (2022). Perceived economic inequality measures and their association with objective inequality and redistributive preferences. *Social Psychology*, *53*(5), 277–291. https://doi.org/10.1027/1864-9335/a000498

García-Sánchez, E., Osborne, D., Willis, G. B., & Rodríguez-Bailón, R. (2020). Attitudes towards redistribution and the interplay between perceptions and beliefs about inequality. *British Journal of Social Psychology*, *59*(1), 111–136. http://doi.org/10.1111/bjso.12326

García-Sánchez, E., Van der Toorn, J., Rodriguez-Bailon, R., & Willis, G. B. (2019). The vicious cycle of economic inequality: The role of ideology in shaping the relationship between "what is" and "what ought to be" in 41 countries. *Social Psychological and Personality Science*, *10*(8), 991–1001. https://doi.org/10.1177/1948550618811500

García-Sánchez, E., Willis, G. B., Rodríguez-Bailón, R., Palacio Sañudo, J., David Polo, J., & Rentería Pérez, E. (2018).

Perceptions of economic inequality and support for redistribution: The role of existential and utopian standards. *Social Justice Research*, *31*(4), 335–354. https://doi.org/10.1007/s11211-018-0317-6

Georgiadis, A., & Manning, A. (2012). Spend it like Beckham? Inequality and redistribution in the UK, 1983–2004. *Public Choice*, *151*(3–4), 537–563. https://doi.org/10.1007/s11127-010-9758-7

Gonzalez, A. M., Macchia, L., & Whillans, A. V. (2022). The developmental origins and behavioral consequences of attributions for inequality. *Journal of Experimental Social Psychology*, *101*, 104329. https://doi.org/10.1016/j.jesp.2022.104329

Hammar, O. (2019). *It's where you're from, it's where you're at: Culture, individualism and preferences for redistribution* [Unpublished manuscript]. Department of Economics, Uppsala University. https://www.oru.se/globalassets/oru-sv/institutioner/hh/seminarieseriennek/seminarieserie-nek—olle-hammar-190314.pdf.

Heiserman, N., & Simpson, B. (2021). Measuring perceptions of economic inequality and justice: An empirical assessment. *Social Justice Research*, *34*(2), 119–145. https://doi.org/10.1007/s11211-021-00368-x

Hussak, L. J., & Cimpian, A. (2015). An early-emerging explanatory heuristic promotes support for the status quo. *Journal of Personality and Social Psychology*, *109*(5), 739–752. https://doi.org/10.1037/pspa0000033

Jasso, G., Tornblom, K. Y., & Sabbagh, C. (2016). Distributive justice. In C. Sabbagh & M. Schmitt (Eds.), *Handbook of social justice theory and research* (pp. 201–218). Springer New York. https://doi.org/10.1007/978-1-4939-3216-0

Kraus, M. W., Piff, P. K., & Keltner, D. (2009). Social class, sense of control, and social explanation. *Journal of Personality and Social Psychology*, *97*(6), 992–1004. https://doi.org/10.1037/a0016357

Kraus, M. W., & Stephens, N. M. (2012). A road map for an emerging psychology of social class. *Social and Personality Psychology Compass*, *6*, 642–656. https://doi.org/10.1111/j.1751-9004.2012.00453.x

Kuziemko, I., Norton, M. I., Saez, E., & Stantcheva, S. (2015). How elastic are preferences for redistribution? Evidence from randomized survey experiments. *American Economic Review*, *105*(4), 1478–1508. httpsss://doi.org/http://doi.org/10.1257/aer.20130360 https://doi.org/10.1257/aer.20130360

Li, Q. B. (2012). *China's income redistribution: Determinants of preferences, policy formation and effects calculation* [Unpublished doctoral dissertation]. Nankai University.

Li, J. (2014). *Study on the tendency of attribution on the gap between the rich and the poor in different social classes*. World Publishing Corporation.

Li, Y. N., Huang, Q. F., & Liu, S. J. (2022). *Common prosperity: Scientific connotation and realization Path*. CITIC Press Corporation.

Liu, X. (2007). Class structure and the middle-class location in urban China. *Journal of Sociological Studies*, *22*(6), 1–14. https://link.cnki.net/doi/10.19934/j.cnki.shxyj.2007.06.001

Liu, Y. F. (2010). *Attribution theory and its applications*. Shanghai Educational Publishing House.

Lu, X. Y. (Ed.) (2002). *Contemporary Chinese social class research report*. Social Sciences Academic Press.

Meltzer, A. H., & Richard, S. F. (1981). A rational theory of the size of the government. *Journal of Political Economy*, *89*(5), 914–927. https://doi.org/10.1086/261013

Oishi, S., Kushlev, K., & Schimmack, U. (2018). Progressive taxation, income inequality, and happiness. *American Psychologist*, *73*(2), 157–168. https://doi.org/10.1037/amp0000166

Piff, P. K., Wiwad, D., Robinson, A. R., Aknin, L. B., Mercier, B., & Shariff, A. (2020). Shifting attributions for poverty motivates opposition to inequality and enhances egalitarianism. *Nature Human Behaviour*, *4*(5), 496–505. http://doi.org/10.1038/s41562-020-0835-8

Rodríguez-Bailón, R., Bratanova, B., Willis, G. B., Lopez-Rodriguez, L., Sturrock, A., & Loughnan, S. (2017). Social class and ideologies of inequality: How they uphold unequal societies. *Journal of Social Issues*, *73*(1), 99–116. http://doi.org/10.1111/josi.12206

Sainz, M., Moreno-Bella, E., & Torres-Vega, L. C. (2023). Perceived unequal and unfair workplaces trigger lower job satisfaction and lower workers' dignity via organizational dehumanization and workers' self-objectification. *European Journal of Social Psychology*, *53*(5), 921–938. https://doi.org/10.1002/ejsp.2944

Schmalor, A., & Heine, S. J. (2022). The construct of subjective economic inequality. *Social Psychological and Personality Science*, *13*(1), 210–219. https://doi.org/10.1177/1948550621996867

Schmidt-Catran, A. W. (2016). Economic inequality and public demand for redistribution: Combining cross-sectional and longitudinal evidence. *Socio-Economic Review*, *14*(1), 119–140. http://doi.org/10.1093/ser/mwu030

Spiller, S. A., Fitzsimons, G. J., Lynch Jr., J. G., & McClelland, G. H. (2013). Spotlights, floodlights, and the magic number zero: Simple effects tests in moderated regression. *Journal of Marketing Research*, *50*(2), 277–288. https://doi.org/10.1509/jmr.12.0420

Stancato, D. M., Keltner, D., & Chen, S. (2023). The gap between us: Income inequality reduces social affiliation in dyadic interactions. *Personality and Social Psychology Bulletin*, *50*(8), 1280–1296. https://doi.org/10.1177/01461672231164213

Starmans, C., Sheskin, M., & Bloom, P. (2017). Why people prefer unequal societies. *Nature Human Behaviour*, *1*(4), 0082. http://doi.org/10.1038/s41562-017-0082

Weiner, B. (1986). *An attributional theory of motivation and emotion*. Springer-Verlag.

Weng, Z. L., Hau, K. T., & Chang, L. (2005). A comparison of moderator and mediator and their applications. *Acta Psychological Sinica*, *37*(2), 268–274.

Wienk, M. N. A., Buttrick, N. R., & Oishi, S. (2022). The social psychology of economic inequality, redistribution, and subjective well-being. *European Review of Social Psychology*, *33*(1), 45–80. http://doi.org/10.1080/10463283.2021.1955458

Wilkinson, R. G., & Pickett, K. E. (2017). The enemy between us: The psychological and social costs of inequality. *European Journal of Social Psychology*, *47*(1), 11–24. http://doi.org/10.1002/ejsp.2275

Willis, G. B., Rodríguez-Bailón, R., López-Rodríguez, L., & García-Sánchez, E. (2015). Legitimacy moderates the relation between perceived and ideal economic inequalities. *Social*

Justice Research, *28*(4), 493–508. http://doi.org/10.1007/s11211-015-0253-7

Xu, J. B., Liu, H., & Yin, K. G. (2013). A research review about influence factors of residents' redistributive preferences. *Social Sciences International*, (2), 50–55.

Xu, B. X., Yang, S. L., Li, J., Li, Y., & Guo, Y. Y. (2020). Do higher-class individuals feel more entitled? The role of system-justifying belief. *The Journal of Social Psychology*, *160*(4), 445–458. http://doi.org/10.1080/00224545.2019.1671783