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# ARTICLE



# Is contact among social class groups associated with legitimation of inequality? An examination across 28 countries

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### Abstract

Is class-based contact associated with legitimation of inequality? Drawing from the idea that people adopt beliefs predominant in groups with whom they interact, we hypothesized that upper-class contact would correspond to greater legitimation of inequality, whereas lower-class contact would correspond to lesser legitimation of inequality among lower- and upper-class individuals. We also hypothesized that middle-class individuals might possess a more precarious identity, leading lower-class contact to correspond to higher legitimation of inequality. We tested hypotheses using a nationally representative sample from Chile (N=4446; Study 1), and nationally representative samples from 28 countries (N=43,811; Study 2). Support for hypotheses was mixed. Upper-class contact was often associated with greater legitimation of inequality, whereas lower-class contact was frequently related to lower legitimation of inequality. Patterns emerged among most social class groups, but there was also variation across groups. We discuss potential explanations for results along with theoretical implications for class-based contact.

### **KEYWORDS**

intergroup contact, legitimation of inequality, social class

# INTRODUCTION

Intergroup contact often shapes beliefs related to inequality, including prejudice toward low-status groups (Pettigrew & Tropp, 2006) and support for collective action (Dixon et al., 2012). However, little is known about the implications of contact within and between social class groups (Cote et al., 2017; Dixon

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et al., 2020). We seek to address this gap, exploring three questions. First, we examine whether contact with upper-class individuals is associated with greater legitimation of inequality. Second, we address whether contact with lower-class individuals is associated with lower legitimation of inequality among upper- and lower-class individuals. Third, we investigate whether this latter form of contact is associated with greater legitimation of inequality among middle-class individuals. The present research contributes to building a more comprehensive picture of how intergroup contact corresponds to inequality beliefs.

### Intergroup contact, legitimation of inequality, and social class

Intergroup interactions shape people's attitudes toward groups and their ideas about society. Literature on intergroup contact has argued that positive interactions with outgroup members foster perspective-taking and empathy (Pettigrew & Tropp, 2008), as well as making salient commonalities over differences (Saguy et al., 2009). These effects can lead people to adopt beliefs predominant within these groups (e.g. Hasan-Aslih et al., 2019; Tropp et al., 2021). For example, outgroup contact leads people to adopt more positive attitudes toward the group (Pettigrew & Tropp, 2006) and prompts higher status groups to challenge inequality (Hässler et al., 2020; Reimer et al., 2017; but see Sengupta et al., 2023). Despite these positive outcomes, intergroup contact can also reinforce inequality, such as through increasing perceptions of fairness among disadvantaged groups (Dixon et al., 2007; Saguy et al., 2009). Literature studying ingroup contact suggests similar ideas. For example, research has found that people's attitudes toward outgroups and perceptions of discrimination become more similar to those held by ingroup friends (Bracegirdle et al., 2022, 2023), suggesting that ingroup contact can socialize people to adopt ideas prevalent within groups.

What is the role of social class? Social class has been widely studied in sociology as a type of group that is defined around the ownership of valued resources as well as the means of acquiring economic resources in capitalist economic structures (Weber, 2013). This concept has more recently received attention in social psychology (Kraus et al., 2011), and has been conceived as a group identity defined by the possession of objective (e.g. wealth) or symbolic resources (e.g. prestige) placed in a hierarchical structure (Manstead et al., 2019). Thus, our focus is on how people perceive themselves as members of a social class group. Given the scarcity of studies examining contact among social classes (Cote et al., 2017; Dixon et al., 2020; Vázquez et al., 2022), we draw from research examining other forms of contact (e.g. race-based) to formulate our hypotheses.

Given that contact has the potential to foster communication of beliefs (e.g. Sengupta et al., 2012), empathy (Pettigrew & Tropp, 2008), and increases the salience of commonalities over differences (e.g. Sengupta & Sibley, 2013), we argue that upper- and lower-class individuals will be more likely to adopt ideas predominant in class groups with which they interact. Indirect evidence from our argument was provided by Vázquez et al. (2022), who found that people were more willing to defend working-class individuals' rights after having positive contact with them. Members of higher- (vs. lower-) status groups are more likely to legitimize the status quo (e.g. economic inequality; Brandt et al., 2020; Brown-Iannuzzi et al., 2015). Thus, we hypothesize that upper-class contact will correspond to higher legitimation of inequality (Hypothesis 1), whereas lower-class contact will correspond to lower legitimation of inequality among upper- and lower-class individuals (Hypothesis 2).

### A precarious middle-class?

Previous research has primarily focused on contact within binary relations (e.g. White and Black individuals; Emerson et al., 2002). There is less research examining contact among groups intermediate in status. Individuals who are middle-class inherently possess an identity that falls between the status of lower- and upper-class groups.

We argue that middle-class individuals might embody a more precarious identity than members of other social class groups. Social class can be accurately inferred through various cues (e.g. clothing; Kraus

& Mendes, 2014). However, the visual information used to categorize people into social class groups is typically less diagnostic than for other identities such as gender or race (Bjornsdottir & Rule, 2017), and cues signalling middle-class membership might be less salient than cues for other social classes (Cote et al., 2017). Additionally, middle-class individuals are prone to both upward and downward mobility. Together, these elements can lead to a sense of identity precarity among middle-class individuals.

Contact among groups with precarious identities can elicit concerns about being misidentified as or becoming part of a socially devalued group (Buck et al., 2013; LaCosse & Plant, 2019). Middle-class individuals who interact with lower-class individuals could experience concerns that they will be misidentified as or become lower-class. Threats to precarious identities can provoke reactions intended to restore one's status (Vandello & Bosson, 2013), such as distancing oneself from the lower-status group (Kuntsman et al., 2016). Indirect evidence supporting this argument in the context of social class comes from sociological research finding that individuals use a variety of means to distinguish themselves from others who are lower in social class, which can take the form of symbolic resources such as taste preferences (Bourdieu, 1986). In the same way, members of the Hindu OBC ('Other Backward Classes'), an intermediate group in the Indian caste system, tended to include more high- than low-status groups as part of an inclusive superordinate identity (Reimer et al., 2022).

We argue that ideological beliefs predominant among higher-class individuals can serve a similar compensatory purpose. Thus, we predict that lower-class contact will correspond to *stronger* legitimation of inequality among middle-class individuals (Hypothesis 3). Upper-class contact should not elicit identity precarity concerns and instead should result in adopting attitudes predominant in that group. Importantly, middle-class individuals are also heterogenous in objective indicators of socioeconomic status (e.g. income; Barozet & Fierro, 2014). Lower-class contact might be especially likely to elicit reactive effects among middle-class individuals who view themselves as more prone to misidentification or downward mobility. This argument is also consistent with the idea that under conditions of long-term instability, individuals can legitimate inequalities because they hope to experience upward mobility (Caricati & Owuamalam, 2020). Thus, we predict that lower-class contact will most strongly correspond to higher legitimation of inequality among middle-class individuals who have a more (vs. less) precarious social status (Hypothesis 4).

### The present research

We examine the relation between class-based contact and legitimation of inequality across two studies. We analyse the degree of economic inequality considered as just, whether people think inequality is too large, and perceptions of meritocracy as existing in society. In the main text, we analyse variables that were included in the datasets for both studies, allowing for direct comparison and synthesis of findings. Results for variables that were not available in both studies are reported in the Online Supplementary Material (OSM). Hypotheses and data analysis plans were preregistered and can be accessed at https://osf.io/y58zh/.

### STUDY 1

In Study 1, we used a Chilean national representative sample.

### Method

### Participants

Data came from the *Estudio Longitudinal Social de Chile* (Centro de Estudios de Conflicto y Cohesión Social, 2018a, 2018b). We merged two samples collected in 2016 (N=2927) and 2018 (N=1519) based

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Before accessing the dataset, we conducted sensitivity power analyses with G\*Power (Faul et al., 2007) to determine the smallest effect sizes we could detect with 80% power and a=.05. Results indicated we could detect an effect size as small as  $f^2=.04$  for main and interaction effects in our most complex model. We also conducted simulations in R (R Core Team, 2021) to determine the smallest effect sizes detectable for simple slope analyses. Results indicated we could detect an effect size as small as  $\beta=.15$  (see OSM for full details).

### Measures

All questions were asked in Spanish. The center conducting the survey translated items into English.

### Subjective social class

We operationalized social class as the subjective identification with a social class group. Research in the U.S. has frequently used this type of categorical measure (e.g. Brown-Iannuzzi et al., 2021). We consider this to also be a meaningful measure in Chile, given that most people in Chile refer to socioeconomic criteria (e.g. income) and use a categorical (vs. continuous) approach when freely classifying their own and others' social class (MacClure et al., 2020). Accordingly, participants indicated their social class from the following categories: *lower-class group* (17.28%), *lower-middle-class group* (38.93%), *middle-class group* (38.50%), *upper-middle-class group* (4.76%) and *upper-class group* (0.01%).<sup>1</sup>

### Objective socioeconomic status

We used income as a marker of objective socioeconomic status (Kraus et al., 2009). Participants chose to indicate their income in Chilean pesos  $(CLP)^2$  in an open-ended manner or on a range from 1 (*less than 220,000 monthly net income*) to 20 (*more than 2,700,000 monthly net income*). For participants who indicated their income in the open-ended response question, we computed their responses into the corresponding range. We operationalized middle-class precariousness using this measure, such that middle-class individuals with lower (vs. higher) income were considered more (vs. less) precarious.

# Frequency of upper- and lower-class contact

Contact was assessed with the items *How often do you talk or interact with people from the upper class/lower class?* Responses ranged from 1 (*never*) to 5 (*always*).

# Legitimation of inequality

We indexed legitimation of inequality in three different ways. We coded all these measures such that higher values expressed greater legitimation of inequality.

*Just income inequality.* Participants indicated monthly earnings in CLP they considered to be just for a high-status occupation (chairman of a large national company) and a low-status occupation (unskilled factory worker; Castillo, 2011). We computed the natural logarithm of the ratio between these two quantities (Jasso & Wegener, 1997). In the resultant variable, a value of zero indicates preference for equal income, a positive value indicates preference for the high-status occupation to receive higher earnings, and a negative value indicates preference for the low-status occupation to receive higher earnings. Thus, higher values indicate greater legitimation of inequality.

<sup>&</sup>lt;sup>1</sup>We repeated sensitivity power analyses using observed social class frequencies. Results indicated power .726–.999 to detect predicted effects for most social class groups, except upper-class ( $\beta$ = .21; see OSM, Table S3 for full details).

<sup>&</sup>lt;sup>2</sup>1 USD = 633.31 CLP on October 31, 2016 (Wave 1).

*Perceptions of inequality.* Participants indicated the degree to which they believed that *In Chile, the differences in income are too large* using response options that ranged from 1 (*totally disagree*) to 5 (*totally agree*), which we reverse coded.

*Perceptions of meritocracy (criteria).* Three items assessed how important participants perceived different meritocratic criteria to be for getting ahead in life: *Have a good level of education, Have ambition,* and *Hard work.*<sup>3</sup> Response options ranged ranging from 1 (*not at all important*) to 5 (*very important*). We averaged responses, which resulted in a reliability lower than conventional suggestions ( $\alpha$ =.58). We decided to include this measure in analyses despite this limitation because this lower reliability could be due to the low number of items available to index perceived meritocracy (Tavakol & Dennick, 2011).

### Analytic plan

#### Missing data

We used linear regression models with full information maximum likelihood in *lavaan* (Rosseel, 2012) in R (R Core Team, 2021) to handle missing values (see OSM, Table S5 for full details).

#### Analyses

To test Hypothesis 1, we conducted main effect models with frequency of lower-class contact and frequency of upper-class contact as predictors, and measures of legitimation of inequality as dependent variables. To test Hypotheses 2–4, we created four dummy-coded social class contrast variables (Aiken & West, 1991). We conducted separate models in which we specified a social class group as the reference group as needed to test hypotheses. Models included main effects of upper-class contact, lower-class contact, social class dummy codes, and interactions between upper-class contact/lower-class contact and social class dummy codes. We also included income and its two- and three-way interactions with the other variables when testing Hypothesis 4. We group-mean-centred continuous predictor variables (contact and income; Poldrack et al., 2011). When interactions were significant, we conducted simple slope analyses within social class groups (Aiken & West, 1991). In the main text, we report results relevant to hypotheses (see OSM, Tables S8–S50 for all results).

### Results

Descriptive statistics and correlation matrix are presented in the OSM (Tables S6 and S7).

**Hypothesis 1.** Is greater frequency of upper-class contact associated with higher legitimation of inequality, regardless of social class group?

Associations between upper-class contact and each outcome are displayed in Figure 1. As predicted, greater upper-class contact was associated with perceiving income inequality as more just,  $\beta = .06$ , p < .001, 95% CI [0.03, 0.09], and meritocracy as existing on specific criteria,  $\beta = .08$ , p < .001, 95% CI [0.05, 0.11]. Inconsistent with predictions, however, upper-class contact was associated with thinking income differences are *too large*,  $\beta = -.05$ , p = .002, 95% CI [-0.08, -0.02]. Consistent with predictions, participant social class did not moderate the association between upper-class contact and perceptions of income inequality as just ( $ps \ge .201$ ), inequality as too large ( $ps \ge .170$ ), and meritocracy as existing on specific criteria ( $ps \ge .075$ ).

<sup>&</sup>lt;sup>3</sup>We preregistered to compute a single meritocracy score. However, three items measuring perceptions of meritocracy (criteria) only correlated with each other ( $r \ge 2.27$ ,  $p \le .001$ ), while two items measuring perceptions of meritocracy (general) only correlated with each other (r = .70,  $p \le .001$ ). Thus, we computed two separate scores (see OSM, Table S4 for full details).



**FIGURE 1** Associations between frequency of upper-class contact and measures of legitimation of inequality, as a function of participant social class (Study 1). Predicted values are plotted at low contact frequency (1 *SD* below the social class group mean) and high contact frequency (1 *SD* above the social class group mean).

**Hypothesis 2.** Is greater frequency of lower-class contact associated with lower legitimation of inequality among upper- and lower-class participants?

**Hypothesis 3.** Is greater frequency of lower-class contact associated with higher legitimation of inequality among middle-class participants?

Associations between lower-class contact and each outcome are displayed in Figure 2. Overall, greater lower-class contact was associated with perceiving income inequality as less just,  $\beta = -.04$ , p < .001, 95% CI [-0.07, -0.01], inequality as too large,  $\beta = -.05$ , p = .001, 95% CI [-0.08, -0.02], and meritocracy as existing on specific criteria,  $\beta = .07$ , p < .001, 95% CI [0.04, 0.10].

### Perceiving inequality as just

Inconsistent with predictions, social class did not moderate the association between lower-class contact and perceiving income inequality as just ( $ps \ge .249$ ). Although lower-class contact was associated with perceiving income inequality as less just, this association was not specific to upper- and lower-class participants, as we had predicted. When examining perceptions of inequality as just, results support Hypothesis 2, but not Hypothesis 3.

### Perceiving inequality as too large

Social class moderated the association between lower-class contact and perceiving inequality as too large. Consistent with predictions, the association differed between lower-class participants and lower-middle-class,  $\beta = .06$ , p = .020, 95% CI [0.01, 0.12], middle-class,  $\beta = .07$ , p = .014, 95% CI [0.01, 0.12], and

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**FIGURE 2** Associations between frequency of lower-class contact and measures of legitimation of inequality, as a function of participant social class (Study 1). Predicted values are plotted at low contact frequency (1 *SD* below the social class group mean) and high contact frequency (1 *SD* above the social class group mean).

upper-middle-class participants,  $\beta = .04$ , p = .020, 95% CI [0.01, 0.07]. Also consistent with predictions, the association did not differ when comparing lower-class and upper-class participants,  $\beta < .01$ , p = .971, 95% CI [-0.03, 0.03], or comparing middle-class groups to each other (all  $ps \ge .261$ ). Nevertheless, and inconsistent with hypotheses, the association did not differ when comparing upper-class participants with middle-class groups (all  $ps \ge .380$ ).

Consistent with Hypothesis 2, simple slope analyses indicated that greater lower-class contact was associated with perceiving inequality as too large among lower-class participants,  $\beta = -.15$ , p < .001, 95% CI [-0.22, -0.08]. However, inconsistent with predictions, this association was not significant among the other social class groups (all  $|\beta|s \le .16$ ,  $ps \ge .056$ ). Thus, when examining perceptions that inequality is too large, results partially support Hypothesis 2 and did not support Hypothesis 3.

### Perceiving meritocracy as existing on specific criteria

Finally, social class moderated the association between lower-class contact and perceiving meritocracy as existing on specific criteria. Consistent with hypotheses, this association differed when comparing lower-class and middle-class participants,  $\beta = -.08$ , p = .004, 95% CI [-0.13, -0.03], and did not differ when comparing lower-class and upper-class participants,  $\beta = .01$ , p = .456, 95% CI [-0.02, 0.04]. Also consistent with hypotheses, this association did not differ when comparing participants in the middle-class groups to each other ( $ps \ge .167$ ). However, inconsistent with hypotheses, this association did not differ when comparing either lower-class or upper-class participants to the remaining middle-class groups ( $ps \ge .076$ ).

Consistent with predictions, simple slope analyses revealed that greater lower-class contact was associated with perceiving meritocracy as existing on specific criteria among lower-middle-class participants,  $\beta = .08$ , p = .001, 95% CI [0.03, 0.13]. Contrary to predictions, however, we also found this association among lower-class participants,  $\beta = .16$ , p < .001, 95% CI [0.09, 0.23]. Further, and inconsistent with predictions, this association was not significant among the other social class groups (all  $\beta s \le .31$ ,  $ps \ge .132$ ). Collectively, when examining perceptions of meritocracy as existing on specific criteria, results partially support Hypothesis 3, but not Hypothesis 2.

**Hypothesis 4.** Is frequency of lower-class contact more strongly associated with legitimation of inequality among middle-class participants lower in objective socioeconomic status?

# Perceiving income inequality as just and inequality as too large

Contrary to predictions, three-way interactions among lower-class contact, income, and social class groups were not significant when predicting perceptions of income inequality as just ( $ps \ge .107$ ) and inequality as too large ( $ps \ge .070$ ).

# Perceiving meritocracy as existing on specific criteria

Social class moderated the two-way interaction between income and lower-class contact when predicting meritocracy as existing on specific criteria. Specifically, the interaction differed when comparing lower-class participants with lower-middle-class,  $\beta = .08$ , p = .040, 95% CI [<0.01, 0.15], and uppermiddle-class participants,  $\beta = .05$ , p = .044, 95% CI [<0.01, 0.09]. No other three-way interactions were significant ( $ps \ge .079$ ). To decompose the three-way interactions, we examined two-way interactions between income and lower-class contact among lower-middle-class and upper-middle-class participants. Contrary to predictions, these interactions were not significant ( $ps \ge .353$ ). In summary, the findings did not support Hypothesis 4.<sup>4</sup>

# Discussion

In Study 1, we found partial support for hypotheses. Greater upper-class contact was most frequently associated with greater legitimation of inequality, and greater lower-class contact was most frequently associated with less legitimation of inequality. Furthermore, we did not find differences when comparing waves (2016 vs. 2018; see OSM Tables S67–S76). The lack of difference could be due to high generalizability of the effects we examine across contexts or the absence of social movements challenging economic inequality at the times when data were collected. One such movement occurred in Chile in 2019 (Gonzalez & Le Foulon Morán, 2020), and analysis of data at later points in time might yield different results. However, there was heterogeneity across measures, and we did not find support for the precariousness of the middle-class hypothesis. Given the heterogeneity in results and the focus on a single country, we conducted a conceptual replication using responses from 28 countries. We also used a more direct measure of middle-class precariousness.

# STUDY 2

In Study 2, we used representative samples from 28 countries.

<sup>4</sup>We did not find differences among middle-class groups ( $ps \ge .106$ ; see OSM, Tables S77–S91 for full details).

# Method

# Participants

Data came from the International Social Survey Programme: Social Inequality V—ISSP 2019 (ISSP Research Group, 2021), which includes data from 29 countries. We excluded Slovenia because it did not measure social class. Participants were from Australia, Austria, Bulgaria, Chile, Taiwan, Croatia, Czech Republic, Denmark, Finland, France, Germany, Iceland, Israel, Italy, Japan, Lithuania, New Zealand, Norway, Philippines, Russia, South Africa, Suriname, Sweden, Switzerland, Thailand, Great Britain, United States, and Venezuela (N=43,811; 20,413 women, 23,313 men, 85 did not indicate any gender;  $M_{age}$  = 49.42). Data collection procedures varied across countries, including self-administered, face-to-face, web-based, and telephone questionnaires.

We conducted sensitivity power analyses to determine effect sizes we could detect with at least 80% power (a=.05) through Monte Carlo simulations in R (R Core Team, 2021). Results indicated we could detect an effect size as small as  $\beta$ =.10 for all parameters of interest in the most complex models (see OSM for full details).

### Measures

Survey questions were asked in the country's main language.

### Subjective social class

The social class measure included the following response options: *lower-class* (10.9%), *working-class* (23.1%), *lower-middle-class* (20.4%), *middle-class* (36.5%), *upper-middle-class* (8.4%), and *upper-class* (0.7%). All groups were treated as distinct categories in analyses. However, we considered both lower-class and working-class groups as lower-class groups when interpreting results. Previous theoretical and empirical work has taken the same approach, as people lower in socioeconomic status (e.g. income, wealth) tend to identify themselves more as part of those class categories relative to other class groups (e.g. Argyle, 1994; Perez Ahumada & Andrade, 2021).<sup>5</sup>

### Perceived downward mobility

We used two items adapted from previous research (Adler et al., 2000) to compute how strongly people perceived they would experience downward mobility in the future. Participants were shown a ladder representing their respective society that ranged from 1 (*bottom*) to 10 (*top*). Participants indicated their own position on the ladder and which position they thought they would be in after 10 years. We computed the difference between current and future positions. Positive values indicate perceptions of future downward mobility, reflecting precariousness among middle-class participants.

### Frequency of lower- and upper-class contact

Contact with social class groups was assessed with the items How often do you have any contact with people who are a lot poorer/a lot richer than you when you are out and about? (lower-class/upper-class contact). For both items, a brief explanation of contact was provided (i.e. This might be in the street, on public transport, in shops, in your neighbourhood, or at your workplace). Response options ranged from 1 (never) to 7 (every day).

### Legitimation of inequality

We indexed legitimation of inequality in the same manner as Study 1.

<sup>5</sup>We repeated sensitivity power analyses using observed social class frequencies. Results indicated statistical power >.999 for effects of interest, except for upper-class participants ( $\beta$  = .15; see OSM, Table S93 for full details).

*Just income inequality.* Participants provided a just salary for three high-status occupations (doctor, chairman of a large national corporation, and cabinet minister in the government) and two low-status occupations (shop assistant and unskilled worker). We computed average scores of just salary for high-and low-status occupations. We then followed the same procedure as in Study 1 to obtain a single score measuring legitimation of income inequality.

Perceptions of inequality. Participants rated the item Differences in income in [Country] are too large. Responses ranged from 1 (strongly agree) to 5 (strongly disagree).

Perceptions of meritocracy (as criteria). We used two items measuring perceptions of meritocracy as criteria to get ahead in life: having a good education yourself and hard work. Responses ranged from 1 (essential) to 5 (not important at all). We reversed items and computed the average to obtain a single score ( $\alpha = .51$ ).

### Analytic plan

### Missing data

We used multiple imputations in *mice* (Van Buuren & Groothuis-Oudshoorn, 2011) in R (R Core Team, 2021) to handle missing values (see OSM, Table S95 for full details).

### Analyses

We used multilevel linear models to test hypotheses. Following mainstream recommendations (Gelman & Hill, 2006; Hox, 2010), we estimated a series of models using the package *lme4* (Bates et al., 2014). Specifically, models cumulatively included: random intercepts across countries (model 1); fixed effects of frequency of upper- and lower-class contact (model 2); social class (dummy coded), and interactions among class-contact and social class (model 3); a fixed effect of perceived downward mobility (model 4); a random slope of frequency of lower-class contact (model 5); and two- and three-way interactions among class-contact, social class, and downward mobility (model 6). We used results from model 2 to obtain the overall associations between both forms of contact and legitimation of economic inequality, model 3 to determine whether social class moderated these associations, and model 6 to test the precariousness of the middle-class hypothesis. We did not have specific hypotheses regarding country-level differences in the association between class groups. As such, we centered predictors at the country× social class level (Enders & Tofighi, 2007). We used formulas outlined by Little and Rubin (2002) to aggregate results across imputed datasets. In the main text, we report results relevant to hypotheses (see OSM, Tables S100–S299 for all results).

### Results

Descriptive statistics and correlation matrix are presented in the OSM (Tables S96-S99).

**Hypothesis 1.** Is greater frequency of upper-class contact associated with higher legitimation of inequality, regardless of social class group?

Associations between upper-class contact and each outcome are displayed in Figure 3. As predicted, greater upper-class contact was associated with perceiving meritocracy as existing on specific criteria,  $\beta$ =.02, p<.001, 95% CI [0.01, 0.03]. However, inconsistent with predictions, frequency of upper-class contact was neither associated with perceiving inequality as just,  $\beta$ =.01, p=.081, 95% CI [-0.02, <0.01], nor as too large,  $\beta$ <.01, p=.827, 95% CI [-0.01, 0.01].

**FIGURE 3** Associations between frequency of upper-class contact and measures of legitimation of inequality, as a function of participant social class (Study 2). Predicted values are plotted at low contact frequency (1 *SD* below the social class group mean) and high contact frequency (1 *SD* above the social class group mean).

Consistent with predictions, social class did not moderate the association between upper-class contact and perceiving meritocracy as existing on specific criteria ( $ps \ge .103$ ). However, inconsistent with predictions, the association between upper-class contact and perceiving inequality as just differed between lower-class and middle-class participants,  $\beta = -.02$ , p = .023, 95% CI [-0.03, <0.01], although no other comparisons were significant (all  $ps \ge .104$ ). Simple slope analyses showed that this association was significant and negative among lower-middle-class participants,  $\beta = -.03$ , p = .020, 95% CI [-0.05, <0.01], but not among the other social class groups (all  $|\beta| \le .02$ ,  $ps \ge .179$ ).

Also inconsistent with predictions, the association between frequency of upper-class contact and perceiving inequality as too large differed between upper-middle-class participants and lower-class,  $\beta = .01$ , p = .037, 95% CI [<0.01, 0.03], working-class,  $\beta = .01$ , p = .020, 95% CI [<0.01, 0.03], and lower-class participants,  $\beta = .01$ , p = .019, 95% CI [<0.01, 0.03], although no other comparisons were significant (all  $ps \ge .113$ ). Simple slope analyses showed that this association was significant and positive among upper-middle-class participants,  $\beta = .04$ , p = .047, 95% CI [<0.01, 0.08], but not among the other social class groups (all  $|\beta|s \le .03$ ,  $ps \ge .206$ ). Collectively, results support Hypothesis 1 when examining perceptions of meritocracy as existing on specific criteria, but not when examining perceptions of inequality as just or too large.

**Hypothesis 2.** Is greater frequency of lower-class contact associated with lower legitimation of inequality among upper- and lower-class participants?

**Hypothesis 3.** Is greater frequency of lower-class contact associated with higher legitimation of inequality among middle-class participants?

Associations between lower-class contact and each outcome are displayed in Figure 4. Overall, greater lower-class contact was associated with perceiving inequality as too large,  $\beta = -.06$ , p < .001, 95% CI [-0.07, -0.05], and meritocracy as existing on specific criteria,  $\beta = .05$ , p < .001, 95% CI [0.04, 0.06], but not with perceiving income inequality as just,  $\beta = -.01$ , p = .203, 95% CI [-0.01, <0.01].





**FIGURE 4** Associations between frequency of lower-class contact and measures of legitimation of inequality, as a function of participant social class (Study 2). Predicted values are plotted at low contact frequency (1 *SD* below the social class group mean) and high contact frequency (1 *SD* above the social class group mean).

### Perceiving inequality as just

Social class moderated the association between lower-class contact and perceiving income inequality as just. Consistent with predictions, this association differed among lower-class participants and lower-middle-class,  $\beta = .03$ , p < .001, 95% CI [0.02, 0.05], and middle-class participants,  $\beta = .02$ , p = .024, 95% CI [<0.01, 0.04], as well as when comparing working-class participants and lower-middle-class participants,  $\beta = .02$ , p = .012, 95% CI [<0.01, 0.03]. Also consistent with predictions, this association did not differ when comparing lower-class, working-class, and upper-class participants to each other ( $ps \ge .061$ ), or when comparing upper-middle-class and middle-class participants,  $\beta < .01$ , p = .497, 95% CI [-0.01, 0.01]. However, inconsistent with predictions, this association did not differ between lower-class participants and middle-class participants,  $\beta < .01$ , p = .497, 95% CI [-0.01, 0.01]. However, inconsistent with predictions, this association did not differ between lower-class and upper-middle-class participants,  $\beta = .01$ , p = .264, 95% CI [-0.01, 0.02], as well as between working-class participants and middle-class,  $\beta = .01$ , p = .264, 95% CI [-0.01, 0.02], and upper-middle-class participants,  $\beta = .01$ , p = .264, 95% CI [-0.01, 0.02], and upper-middle-class participants,  $\beta = .01$ , p = .707, 95% CI [-0.01, 0.01]. Also inconsistent with predictions, this association differed among lower-middle-class participants and middle-class,  $\beta = -.02$ , p = .018, 95% CI [-0.04, <0.01], and upper-middle-class participants,  $\beta = -.01$ , p = .024, 95% CI [-0.01, 0.01], but not when comparing upper-class participants and lower-middle,  $\beta = <.01$ , p = .500, 95% CI [-0.01, 0.01], or upper-middle-class participants,  $\beta = .01$ , p = .924, 95% CI [-0.01, 0.01].

Consistent with predictions, simple slope analyses indicated that greater lower-class contact was associated with perceiving inequality as less just among lower-class participants,  $\beta = -.04$ , p = .003, 95% CI [-0.07, -0.02], but as more just among lower-middle-class participants,  $\beta = .03$ , p = .014, 95% CI [0.01, 0.05]. The association was not significant among the other social class groups (all  $|\beta| \le .02$ ,  $p \ge .290$ ). Thus, when examining perceptions of inequality as just, results partially support Hypotheses 2 and 3.

### Perceiving inequality as too large

Social class moderated the association between lower-class contact and perceiving inequality as too large. Consistent with predictions, this association differed among lower-class participants and middle-class,

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 $\beta$ =.03, p=.008, 95% CI [0.01, 0.05], and upper-middle-class participants,  $\beta$ =.02, p=.006, 95% CI [0.01, 0.03]. Also consistent with predictions, the association did not differ when comparing middleclass, lower-middle, and upper-middle-class participants to each other ( $ps \ge .140$ ), or when comparing upper-class participants with lower-class and working-class participants ( $ps \ge .145$ ). Inconsistent with predictions, however, this association differed between lower-class participants and working-class participants,  $\beta$ =.02, p=.049, 95% CI [<0.01, 0.03]. Also inconsistent with predictions, this association did not differ between lower-class and lower-middle-class participants,  $\beta$ =.02, p=.067, 95% CI [<0.01, 0.03], or when comparing working-class and upper-class participants with all middle-class groups ( $ps \ge .143$ ).

Consistent with predictions, simple slope analyses indicated that greater lower-class contact was associated with perceiving inequality as too large among lower-class,  $\beta = -.10$ , p < .001, 95% CI [-0.13, -0.07], and working-class participants,  $\beta = -.06$ , p < .001, 95% CI [-0.08, -0.04]. Contrary to expectations, however, this same association emerged among lower-middle,  $\beta = -.06$ , p < .001, 95% CI [-0.09, -0.04], and middle-class participants,  $\beta = -.05$ , p < .001, 95% CI [-0.07, -0.03]. This association was not significant among upper-middle and upper-class participants (all  $|\beta| \le .03$ ,  $ps \ge .109$ ). Thus, when examining perceptions of inequality as too large, results partially support Hypothesis 2, but not Hypothesis 3.

### Perceiving meritocracy as existing on specific criteria

Social class also moderated the association between lower-class contact and perceptions of meritocracy as existing on specific criteria. Consistent with predictions, this association differed when comparing lower-class participants to middle-class,  $\beta = -.03$ , p = .003, 95% CI [-0.05, -0.01], and upper-middle-class participants,  $\beta = -.02$ , p = .001, 95% CI [-0.03, -0.01], as well as when comparing working-class to middle-class,  $\beta = -.02$ , p = .026, 95% CI [-0.03, -0.01], and upper-middle-class participants,  $\beta = -.02$ , p = .026, 95% CI [-0.03, <0.01], and upper-middle-class participants,  $\beta = -.02$ , p = .006, 95% CI [-0.03, <0.01]. Also consistent with predictions, this association did not differ among lower-class and working-class participants,  $\beta = -.01$ , p = .265, 95% CI [-0.02, <0.01], among middle-class and upper-middle-class participants,  $\beta = -.01$ , p = .158, 95% CI [-0.02, <0.01], or when comparing upper-class participants to lower-class and working-class participants ( $ps \ge .571$ ). Inconsistent with predictions, however, this association differed when comparing lower-middle-class participants and middle-class,  $\beta = -.02$ , p = .029, 95% CI [-0.04, <0.01], and upper-middle-class participants,  $\beta = -.02$ , p = .006, 95% CI [-0.03, <0.01]. Also inconsistent with predictions, this association did not differ when comparing lower-class and lower-middle-class participants,  $\beta = -.02$ , p = .029, 95% CI [-0.04, <0.01], and upper-middle-class participants,  $\beta = -.02$ , p = .006, 95% CI [-0.03, <0.01]. Also inconsistent with predictions, this association did not differ when comparing lower-class and lower-middle-class participants,  $\beta = -.01$ , p = .315, 95% CI [-0.02, 0.01], when comparing working-class participants to lower-middle-class participants,  $\beta < .01$ , p = .939, 95% CI [-0.01, 0.01], or when comparing upper-class participants to the middle-class groups ( $ps \ge .488$ ).

Consistent with predictions, greater lower-class contact was associated with perceiving meritocracy as existing on specific criteria among lower-middle-class,  $\beta = .06$ , p < .001, 95% CI [0.04, 0.08], and middle-class participants,  $\beta = .03$ , p = .002, 95% CI [0.01, 0.05]. Contrary to expectations, however, the association was also positive among lower-class,  $\beta = .08$ , p < .001, 95% CI [0.05, 0.11], and working-class participants,  $\beta = .06$ , p < .001, 95% CI [0.04, 0.08]. This association was not significant among upper-middle or upper-class participants (all  $|\beta|s \le .04$ ,  $ps \ge .481$ ). Collectively, results partially support Hypothesis 3, but not Hypothesis 2.

Hypothesis 4. Is frequency of lower-class contact more strongly associated with legitimation of inequality among middle-class participants higher in perceived future downward mobility?

Contrary to predictions, we did not find significant three-way interactions among lower-class contact, social class, and perceived downward mobility when predicting any outcome ( $ps \ge .183$ ).

### Discussion

In Study 2, we found partial support for hypotheses. Lower-class contact was associated with perceiving inequality as too large, and upper-class contact was associated with perceiving meritocracy as existing on specific criteria. Additionally, we did not find support for the hypothesis concerning middle-class precariousness.

### **GENERAL DISCUSSION**

We examined whether contact with social class groups would be associated with legitimation of inequality. Overall, we found some support for hypotheses. We observed that, across social class groups, greater upper-class contact was associated with perceiving income inequality as more just (Study 1) and perceiving meritocracy as existing on specific criteria (Studies 1 and 2). Among upper- and lower-class individuals greater lower-class contact was associated with perceiving income inequality as less just (Studies 1 and 2). Furthermore, among lower-class individuals, greater lower-class contact was associated with perceiving inequality as too large (Studies 1 and 2).

Some predictions were not supported. Greater upper-class contact was associated with perceiving inequality as *too large* in Study 1 but not in Study 2. Additionally, among lower-class individuals, greater lower-class contact was associated with perceiving meritocracy as being *more* likely to exist on specific criteria (Studies 1 and 2). Lastly, we did not find support for the prediction that lower-class contact would be associated with greater legitimation of inequality among middle-class individuals. Results suggested that among middle-class individuals, greater lower-class contact was either associated with lower justification of inequality or unrelated to these beliefs.

Our findings paint a complex picture of how class-based contact relates to inequality beliefs. Despite this heterogeneity, these findings hold implications for understanding how class-based contact corresponds to perceptions of society, and the role of individuals' own social class.

### Class-based contact and legitimation of inequality

Our results provide two main contributions to theorizing about inter-class contact and legitimation of inequality. First, findings highlighted that the social class background of an interaction partner often corresponds to how people think about the distribution of resources within their society. In other words, ideas predominant in social class groups appear to be communicated during interactions. Second, we observed that the strength of associations between class-based contact and legitimation of inequality was relatively low. The largest overall (i.e. main effect) associations were  $|\beta| = .08$ . Further, when associations varied across participants' social class groups, the largest associations within any social class group were  $|\beta| = .15$  in Study 1 and  $|\beta| = .10$  in Study 2. Taken together with the heterogeneous way in which social class modulated the impact of contact, findings might indicate that social class plays a more complex role than we had initially hypothesized. While we do not have a theoretical explanation that would account for these heterogeneous effects at the current time, we hope that future research continues to unpack the puzzle of how social class might shape the effects of class contact on legitimation of economic inequality.

The associations we observed are smaller than those found between contact and prejudice (i.e. r=-.21; Pettigrew & Tropp, 2006). Our research differed from Pettigrew and Tropp's (2006) seminal meta-analysis in several methodological domains that could partially account for these differences in effect sizes. For example, that meta-analysis included studies with optimal conditions created through experimental manipulation, which generally exhibited larger effect sizes. However, effect sizes from our research are consistent with those from a recent meta-analysis finding that among lower-status individuals (e.g. racial minorities), contact with high-status individuals was associated with less perception of

injustice (r=-.07), less support for collective action (r=-.06), and less support for policies intended to benefit lower-status groups (r=-.07; Reimer & Sengupta, 2022).<sup>6</sup>

These differences in effect sizes can also be interpreted in two complementary ways. Class-based contact might have weaker effects than other forms of contact, as social class is inferred through perceptual cues (Kraus & Mendes, 2014), which are less diagnostic than those for other groups (e.g. race; Bjornsdottir & Rule, 2017). Therefore, people might be less likely to think about interaction partners through a lens of social class, which would attenuate the impact of contact on any type of belief or attitude. In addition, intergroup contact might have a weaker correspondence with people's beliefs about inequality than on prejudice. Attitudes toward groups involved in social interactions (e.g. prejudice) are conceptually different than attitudes toward attributes, such as general beliefs about society (e.g. inequality; Ledgerwood et al., 2018). Further, intergroup contact overall is more effective at reducing prejudice toward specific individuals involved in an interaction than toward groups to which they belong (see Gonzalez & Brown, 2006). Putting these perspectives together leads us to speculate that contact could be more effective when considering concrete and proximal outcomes (e.g. prejudice toward individuals) rather than abstract ideas about society (e.g. legitimation of inequality) because these more general ideas must be inferred from specific interactions with others. Future research could directly test these ideas as well as the specific mechanisms through which class contact shapes beliefs, such as perspective-taking and social comparison processes.

It is also worthwhile to note that the strongest associations between class-based contact and legitimation of inequality tended to emerge among lower-class individuals. Most associations were not significant among upper-class individuals, consistent with recent longitudinal evidence (Sengupta et al., 2023). Although not predicted, these findings are consistent with research that has proposed that low-status individuals develop more interdependent self-construals (Kraus et al., 2011). Indeed, individuals with lower socioeconomic status report higher levels of perspective-taking (Dietze & Knowles, 2021). This greater attentiveness to social cues possibly explains, at least in part, the stronger link between classbased contact and beliefs about inequality among lower-class individuals. Alternatively, the null associations among upper-class participants could also be attributable to lack of statistical power, as less than 1% of participants across both studies self-identified as upper-class.

# A disadvantaged (rather than insecure) middle class?

We did not find that lower-class contact corresponded to *higher* legitimation of inequality among middle-class individuals. These results might be related to changes in the salience of economic inequality across the globe, which has increased over the last decades (Piketty & Saez, 2014). This shift might lead people to perceive low permeability and high stability (Perez Ahumada & Andrade, 2021), in which case middle-class individuals would perceive themselves as closer to lower-class individuals (MacClure et al., 2020; Perez-Ahumada, 2017). As a result, middle-class individuals might be unlikely to achieve positive social identity through downward comparisons (Caricati, 2018; Caricati & Owuamalam, 2020), which could explain why they did not legitimize inequality when reporting greater lower-class contact.

### Legitimation of inequality: a multidimensional construct?

Our research provides insight concerning the conceptualization of inequality beliefs. Despite the conceptual overlap among the constructs we measured (e.g. inequality, meritocracy), bivariate associations among these indicators were weak ( $rs \le .16$ ; see OSM Tables S6 and S96), which is consistent with other research using representative surveys (e.g. García-Sánchez et al., 2021; García-Sánchez, Willis,

<sup>&</sup>lt;sup>6</sup>We found support for the assumption that the contact measures gauged positive contact (e.g. Pettigrew & Tropp, 2006) in Study 1, but less support in Study 2. This potentially contributed to heterogeneity in results (see OSM for full details).

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Rodríguez-Bailón, et al., 2018). These weak associations suggest that how individuals think about inequality is not inherently linked to beliefs about overall income differences or specific justice principles such as meritocracy. Indeed, literature has shown that individuals also associate fairness with respectful treatment (for a review see Skitka, 2009) or social exclusion (e.g. García-Sánchez, Willis, Rodriguez-Bailon, et al., 2018).

We also found that perceptions of meritocracy on specific criteria were negatively associated with the other legitimation of inequality measures (see OSM Tables S6 and S96). This implies that perceiving hard work or ambition as important for getting ahead in life might *delegitimize* class differences. This is inconsistent with research showing that priming meritocratic concepts elicits justification of inequality (McCoy & Major, 2007). However, it is consistent with previous studies suggesting that meritocratic beliefs can be construed in different ways, resulting in different associations across contexts or populations (Levi et al., 2006). One potential explanation for our results is that people approved of meritocracy as a criterion for allocating resources in society (i.e. injunctive norm) but they did not perceive it as the specific criterion that is currently used to allocate resources (i.e. descriptive norm; see Madeira et al., 2019; Son Hing et al., 2011).

### **Concluding remarks**

We explored how class-based contact corresponded to legitimation of inequality. We found partial support for the idea that upper-class contact would be associated with greater legitimation of inequality, whereas lower-class contact would be related to lower legitimation of inequality. We found variation in the size and strength of associations across groups and assessments of legitimation of inequality. We hope that these findings motivate future research investigating interactions among social class groups.

### AUTHOR CONTRIBUTIONS

**Salvador Vargas Salfate:** Conceptualization; formal analysis; methodology; writing – review and editing; investigation. **Chadly Stern:** Conceptualization; methodology; investigation; supervision; writing – review and editing.

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### CONFLICT OF INTEREST STATEMENT

All authors declare no conflict of interest.

### DATA AVAILABILITY STATEMENT

All materials (online supplemental materials, analysis scripts, codebooks, and preregistrations) are publicly available at https://osf.io/y58zh/. Datasets are publicly available at https://dataverse.harvard.edu/ dataverse/coes\_data\_repository and https://doi.org/10.4232/1.13829

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### SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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