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Positive contact with working-class people reduces personal contribution to inequality

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Alexandra Vázquez,[1] Pablo Sayans-Jiménez,[2] Lucía López-Rodríguez,[2] David Lois[1] and Hanna Zagefka[3]

Abstract

The current research investigates the effect of a type of intergroup contact that has rarely been studied to date, class-based contact, on one's personal contribution to inequality. We conducted two studies with middle and upper class individuals. We first longitudinally examined whether positive contact with working-class people reduces contribution to inequality (i.e., participants stating that they themselves contribute to maintaining the social hierarchy) whilst controlling for ideological factors. Lower levels of contribution to inequality were present in people with more and better contact, but the change over time was small in the absence of experimental manipulation. An experiment then showed that recall of positive (vs. negative) contact with working-class people reduced participants' contribution to inequality and increased their willingness to participate in collective action for equality. These results suggest that facilitating spaces where members of different social classes can have positive interactions can contribute to reducing inequality.

Keywords

collective action, inequality, intergroup contact, social class, system justification

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Inequality and social exclusion are some of the most pervasive problems in contemporary societies and they constitute an enormous challenge for Europe (European Commission, 2019). Previous research indicates that intergroup contact reduces prejudice and intergroup conflict (Pettigrew & Tropp, 2011; cf. Paluck et al., 2018), and sensitizes members of advantaged groups to the structural discrimination faced by the

[1]Universidad Nacional de Educación a Distancia, Spain
[2]Universidad de Almería, Spain
[3]Royal Holloway, University of London, UK

Corresponding author:
Alexandra Vázquez, Departamento de Psicología Social y de las Organizaciones, Universidad Nacional de Educación a Distancia (Spain), C/Juan del Rosal, 10, Madrid, 28040, Spain.
Email: alx.vazquez@psi.uned.es

disadvantaged, which can ultimately help to achieve greater social justice (Reimer et al., 2017). This previous research has often focused on interethnic relations, and little is known about how contact between members of different social classes can stimulate or weaken efforts to maintain inequalities.

The current research aims to contribute to the literature on intergroup contact by investigating the role of an ignored type of contact, class-based contact. In particular, we conducted a first study to explore, among middle and upper class individuals, how contact with working-class people and contribution to inequality are related and change over time in a natural context, without any external intervention. To get a clearer estimate of the potential effects of contact on contribution to inequality, we controlled for the influence of ideological factors related to the perceived functioning of society, namely system justification, meritocratic beliefs, and materialism. In a second study, designed to provide stronger evidence regarding the predictive effect of contact on contribution to inequality, we manipulated the quality of recalled contact with working-class people and checked the effects on participants' anticipated contribution to inequality and on their willingness to participate in collective action on behalf of the working class.

Social Class

Social class has been largely absent from psychosocial research until recently. Thomas and Azmitia (2014) attribute this lack of interest to the denial of class stratification, which would be caused by the wide acceptance of the meritocratic paradigm and the conceptualization of social class as fluid and controllable. Social class is perceived as a liquid category from which one can escape through personal effort, although, in reality, levels of upward mobility are falling or stalling in many countries (Organisation for Economic Co-operation and Development [OECD], 2018). The paucity of empirical evidence on social class should not be interpreted as a symptom of its limited impact. On the contrary, social class exerts a remarkable influence over the course of our lifetime in multiple areas such as occupations, neighborhoods of residence, cultural preferences, physical and mental health, mortality rates, and self-concept (see Kraus & Stephens, 2012). Moreover, perceivers do categorize others according to social class along with other dimensions such as race (Weeks & Lupfer, 2004). In fact, people infer social class rapidly and accurately (Kraus et al., 2017) based on minimal facial cues (i.e., emotional expressions), and then use their stereotype-related impressions to make judgments (Bjornsdottir & Rule, 2017).

Researchers have traditionally used objective indicators of socioeconomic status (e.g., income, educational opportunities) to determine social class, but more recently, subjective measures of social class have gained prominence (Kraus & Stephens, 2012). Because of the historical and current contribution of income levels to class categorization, and because of the importance of people's self-definitions for their class membership and their thoughts and behaviors, in this research, we focused on the aspects of income and self-definition as particularly pertinent markers of class membership. In the current research, we categorized participants as middle or upper class if they self-identified in this way and had an income level typical of such classes. Paradoxically, affluent individuals tend to regard social class as more important to identity and are more aware of structural factors contributing to their success than lower income individuals are (Aries & Seider, 2007).

Class divides also exert a strong impact on societal level. Countries with bigger income differences between rich and poor tend to perform worse than more equal countries in a wide range of social outcomes such as poorer health, lower educational performance, higher levels of violence and imprisonment, and lack of social cohesion (Wilkinson & Pickett, 2009). Despite its harmful consequences, income inequality has increased in most developed countries since 1990 (United Nations Department of Economic and Social Affairs [UNDESA], 2020). According to the UNDESA, the concern about balancing public budgets has led to cuts in public spending and

investment, when redistribution through taxes and public spending is urgently needed to reduce inequality. The negative consequences of economic inequality are especially harmful and pervasive for those who are at the bottom of the social hierarchy (Wilkinson & Pickett, 2009). Indeed, recent data from 36 countries yielded a positive association between subjective status and perceived legitimacy of the economic system, such that people with higher status tend to see the system as more legitimate than those with lower status (Brandt et al., 2020). Experimental evidence also shows that individuals who are low in subjective status support redistribution more than those who are high in subjective status, and they do so on the basis of fairness-related ideologies (Brown-Iannuzzi et al., 2015).

Although middle and upper class individuals would benefit less than working-class individuals from the redistribution of income and wealth, they might also contribute to reducing inequalities under some circumstances. Previous research offers examples of advantaged group members who get deeply involved in the struggle of the disadvantaged as "allies" (e.g., Reimer et al., 2017; Russell, 2011). In other cases, the commitment of members of advantaged groups translates into support for compensation policies but not so much for preferential policies (Dixon et al., 2010). In any case, members of advantaged groups play a crucial role in social change or maintenance of the status quo because they have more power and resources than the disadvantaged. Thus, understanding the factors that motivate members of economically advantaged groups to preserve or reduce inequality is particularly valuable.

Intergroup Contact and Inequality

Intergroup contact often has a significant impact on motivation to work towards social change (e.g., Hässler et al., 2020; Reimer et al., 2017; Tausch et al., 2015). The contact literature has been especially interested in ethnic or racial divides, whereas social class has not been explicitly addressed. The current research aims to shed light on the impact of class-based intergroup contact on the contribution to inequality by members of the middle and upper classes. Previous research exploring the association of contact between different social groups (e.g., Blacks and Whites, heterosexual and sexual minority people, citizens of a host country and immigrants, etc.) and social change (Dixon et al., 2010; Reimer et al., 2017) can be helpful in understanding the effects of class-based contact.

Although only few studies have analyzed the influence of intergroup contact on how members of advantaged groups behave in relation to social inequality (Reimer et al., 2017), most of them have found significant effects. However, the evidence is somewhat mixed in that some studies found a negative correlation between contact and support for egalitarian policies, whereas others show a positive association. Some evidence suggests that positive contact may undermine motivation for social change among advantaged groups (Cakal et al., 2011; Jackman & Crane, 1986), because such contact may insinuate that members of the disadvantaged group accept the status quo (Dixon et al., 2012), which can buttress intergroup inequality (Jost et al., 2017).

Notwithstanding these findings, the hypothesis that intergroup contact may tip members of advantaged groups toward equality has garnered support (e.g., Di Bernardo et al., 2019; Dixon et al., 2007, 2010). For instance, Di Bernardo et al. (2019) recently observed that more quantity and quality contact between Italians and immigrants was moderately associated with stronger intentions to engage in actions for social change among Italians. Reimer et al. (2017) found that positive contact with LGBT (lesbian, gay, bisexual, and transgender) individuals had a small effect on LGBT activism longitudinally among heterosexual students. Likewise, Dixon et al.'s (2010) results indicate that White South Africans who had more frequent and more positive contact with Black South Africans reported moderately less opposition to race compensatory policies. In a recent study (12,997 individuals from 69 countries), Hässler et al. (2020) found small to medium positive associations between intergroup contact and support for social change

towards greater equality among members of different advantaged (ethnic and heterosexual) groups. Finally, Vázquez et al. (2020) showed that positive contact with women—the disadvantaged group—was moderately associated with men's willingness to engage in collective action for gender equality, which suggests that contact might play a role even when intergroup relationships are characterized by high interdependence.

In addition to investigating whether intergroup contact influences social change, previous literature has also explored potential mediating mechanisms. Positive contact with a disadvantaged group has been found to mobilize members of the advantaged group for equality by reducing perceived legitimacy of the system (Di Bernardo et al., 2019), increasing awareness of outgroup discrimination (Vázquez et al., 2020), fostering anger over injustice and empathy for outgroup members (Selvanathan et al., 2018), and improving attitudes towards them (Reimer et al., 2017).

These same mechanisms that mediate the effect of contact between groups of different nature (e.g., gender, ethnic, racial, etc.) on the predisposition to social change could also act in the case of class-based contact. Having positive contact with working-class individuals might lead middle and upper class individuals to have more positive perceptions of working-class members, empathize more with them, and become aware of the discrimination and injustice they suffer, which would ultimately translate into more negative attitudes, emotions, and actions towards inequality. However, at the moment, there is only preliminary evidence on class-based contact. In a natural experiment with 22 children in Indian schools, Rao (2019) found that personal contact with poor classmates promoted egalitarian preferences over monetary payoffs in a dictator game among rich students, and reduced discrimination against poor classmates. Pansini et al. (2020) also showed that class segregation within the context of a prisoner's dilemma game leads to an unequal redistribution of wealth.

Based on these studies and previous research exploring the association of contact between different groups (e.g., Blacks and Whites, heterosexual and sexual minority people, citizens of a host country and immigrants, etc.) and social change (Dixon et al., 2010; Reimer et al., 2017), we anticipate that positive contact with working-class members will be related to a self-reported weaker contribution to inequality among middle and upper class individuals, in the sense of displaying behaviors that either contribute to keeping society the way it is or challenge the status quo. However, besides contact, other factors could additionally shape inequality-related behaviors, and the following three seem to be of particular relevance: system justification, meritocratic beliefs, and materialism.

Other Correlates of Attitudes Towards Inequality

System justification theory (Jost & Banaji, 1994) aims to explain why people accept or rebel against a system that harms themselves or others. Often, people seem to be motivated to excuse or defend their social, economic, and political systems (Jost et al., 2004). System justification undermines support for redistribution policies and willingness to help the disadvantaged, because it reduces moral outrage over inequalities (Wakslak et al., 2007; see also Dawtry et al., 2015). System justification implies a greater acceptance of inequality.

Meritocratic beliefs might be considered as a specific type of system-justifying ideology (Bay-Cheng et al., 2015). Meritocratic beliefs assume that effort and personal skills are the primary determinants of success in life (Major et al., 2007). Differences between social classes are judged as more acceptable and legitimate if they are seen to be based on merit rather than on structural factors such as systemic injustice. High-status individuals endorse meritocratic beliefs more than low-status individuals (Kraus & Keltner, 2013), which would, in part, explain their greater preference for maintaining society in its current structure (Bullock, 2017; García-Sánchez et al., 2020). Meritocratic beliefs imply a greater level of comfort in the face of inequality.

Finally, materialism reflects the importance individuals attribute to the acquisition and possession of material goods (Richins & Dawson,

1992). Materialism is discordant with caring about social justice and equality (Kasser, 2018), and intensifies class prejudice. Strongly materialistic individuals evaluate working-class targets more negatively and are less likely to select them for a job than weakly materialistic individuals (Vázquez & Lois, 2020). Thus, materialism might entail a greater tolerance of inequality.

Although we are not aware of any study that explores the relationships of system justification and meritocratic beliefs with materialism, we conjecture that these three sets of beliefs are related to the same ideological base positions in Western, consumer societies. They may therefore belong to a higher cognitive structure where their activation or their change is expected to occur consistently, such that they could jointly influence contribution to inequality.

Overview of Research

In the first study, the intention was to explore, among middle and upper class individuals, how contact with working-class people and contribution to inequality naturally change over time. More specifically, we were interested in investigating the way these variables change together and/or whether changes in contribution to inequality could be anticipated by initial levels of contact even if other ideological variables—namely system justification, meritocratic beliefs, and materialism—are controlled for. In two waves, we measured the variables of contact (quality and quantity), contribution to inequality, system justification, meritocratic beliefs, and materialism. No manipulation or intervention took place in this study.

Although greater quantity and quality of contact both are positively associated with more favorable intergroup attitudes (Pettigrew & Tropp, 2006), quality generally exerts a stronger impact than quantity (e.g., Binder et al., 2009; Dovidio et al., 2017; Vázquez et al., 2020). In line with previous findings, we predicted that quality of contact at Wave 1 will predict changes in contribution to inequality at Wave 2 more reliably than quantity of contact, while controlling for system justification, meritocratic beliefs, and materialism. Then, a second experimental study tested whether the quality of recalled contact with working-class people causally influences participants' contribution to inequality and interest in collective action for the benefit of the working class.

Both studies were conducted in Spain, where there has been an interest in the study of social class following the massive protests of the 15M movement against austerity policies in 2011. The income range associated with the middle class in Spain is 20,000 to 60,000 euros per year (Peláez Paz, 2014). Since the outbreak of the economic crisis of 2008 to 2013, there has been a significant thinning of the middle class in Spain. The percentage of households with an annual income between 18,000 and 60,000 euros decreased from 55.5% to 49.6% (Peláez Paz, 2014). However, a national representative survey reveals World that, currently, the great majority of Spaniards (71.1%) consider themselves middle class (16.7% consider themselves low or working class and only 5.8% consider themselves upper class; Centro de Investigaciones Sociológicas, 2020). Spain is the European Union country with the sixth highest poverty rate (living with an income below 60% of the median income), with 1 in 5 people (21.5%) in this situation (Olías & Ordaz, 2020). Any Spaniard born in a low-income family will need four generations (120 years) to achieve a medium income level, and 66% within the poorest quintile of the income scale will remain stagnant, whereas the average in the richest countries is 57% (García Vega, 2019). In addition to being one of the most unequal countries in the European Union (Gini index was 34.3 in 2019; World Bank, 2019), Spain presents the highest school dropout level in the European Union (19.9% in 2015), and people between 25 and 34 years old in 2005, whose parents had a low educational level, had 45% probability of staying in that situation in 2011 (García Vega, 2019). In sum, social mobility can be considered relatively low, and class membership often stagnant.

This is the context in which the hypotheses were tested. Both studies' procedures were

approved by the Ethical Committee of the lead author's university of affiliation. We report how we determined our sample size, all data exclusions, all manipulations, and all measures in the studies.

Study 1

In Study 1, we measured, in two waves, quality and quantity of contact, contribution to inequality, system justification, meritocratic beliefs, and materialism. The goal was to explore the relationships between these variables, the predictive capability of quantity and quality of contact on the changes arising in contribution to inequality after controlling for the effect of the ideological variables, and natural changes in these variables over time.

Method

Participants. We invited all social psychology students from a distance learning education university to participate in exchange of course credit. We recruited 510 Spanish undergraduates (73.1% women; $M_{age} = 34.15$, $SD = 11.26$), who participated in the first wave; 498 of them (74.9% women; $M_{age} = 33.80$, $SD = 11.09$) completed the second wave. Students from this university are more sociodemographically heterogenous than typical undergraduates: they are older (around 35 years), distributed throughout the Spanish geography in urban and rural areas, and the majority have professional employment (see Sánchez-Elvira Paniagua et al., 2006). The inclusion criteria were reporting a family income over €20,000 per year and defining themselves as middle or upper class.

We performed a sensitivity power analysis using G*Power to estimate the minimum effect size that could be detected with our final sample size in a multiple regression with six predictors (Erdfelder et al., 1996). The result of this analysis indicated that with a sample size of $N = 510$, an $f^2 \geqslant .03$ ($R^2 \geqslant .03$) would be enough to reject the null hypothesis assuming an alpha level of .05 and 80% power (the protocol of power analyses is presented in the supplemental material). This effect size is similar to those presented in Reimer et al. (2017) in the relationships between collective action and intergroup contact, which leads to the conclusion that the study was sufficiently powered with our convenience sample.

Procedure. Participants were invited to take part in a two-wave study about social class. They were first asked about their family income per year with the options: $<$ €20,000, from €20,0000 to €60,000, or $>$ €60,000. Then, they read that social class category membership depends on multiple factors such as income level, education, and occupation, and they were asked to indicate whether they belonged to the low, middle, or upper class. Those who reported an income over €20,000 and self-identified as middle ($n = 494$) or upper class ($n = 16$) were included in the study. Those who did not meet the inclusion criteria (298 participants; 78.5% women; $M_{age} = 29.66$, $SD = 9.85$) were diverted to a different study.

Participants in this study were informed that they would complete two waves with 1 month of distance between the first and the second wave. The questionnaires for Wave 1 and Wave 2 were identical, except that we collected sociodemographic data only in the first wave.

Participants first reported the quantity of contact they have with working-class people (0 = *nothing*, 10 = *a lot*). The remaining variables were answered on 6-point scales (0 = *strongly disagree*, 6 = *strongly agree*).

Contact quality was evaluated by asking participants if the contact they had with working-class people was pleasant, egalitarian, cooperative, and voluntary (based on Gómez et al., 2018; $\alpha =$ .86 and .87 for the first and second waves, respectively).

Contribution to inequality was evaluated using four items from Brandt et al. (2020; $\alpha = .78$ and .81 for the first and second waves, respectively). Items are: "I contribute to keeping society the way it is," "I contribute to maintaining the current social hierarchy," "I don't do anything to change the current differences in power and status in society," and "I am not trying to change

the current differences in power and status in society." Higher scores on this scale indicate greater contribution to inequality.

We then measured materialism by means of the six-item Social Material Values Scale from Richins (2004; $\alpha = .84$ and .85 for the first and second waves, respectively). Example items are: "I admire people who own expensive homes, cars, and clothes" and "Buying things gives me a lot of pleasure."

System justification was measured by means of eight items adapted from Kay and Jost (2003; $\alpha = .78$ for the two waves). Example items are: "In general, the Spanish political system operates as it should" and "Spanish society needs to be radically restructured" (reverse-scored).

Meritocratic beliefs were measured by means of the Personal Wherewithal Subscale of the Neoliberal Beliefs Inventory (Bay-Cheng et al., 2015; $\alpha = .90$ and .91 for the first and second waves, respectively). Example items are: "Any goal can be achieved with enough hard work and talent" and "I've benefited from working hard, so there's no reason others can't." Finally, participants were debriefed and thanked.

Results

The means, standard deviations, and correlations between all the indicators are presented in Table S1 of supplemental material. Mardia's multivariate tests performed with the "mvn" R library (Korkmaz et al., 2014) regarding skewness (56328.27, $p < .001$) and kurtosis (46.48, $p < .001$), indicated a lack of multivariate normality, but this was addressed by using maximum likelihood with restricted standard errors (MLR) estimator to determine the parameters in the models presented in what follows.

Latent change model. We performed a latent change model to explore the true changes in all the variables over time, their relationships, and their dependence on the variables at Wave 1 (Geiser et al., 2010; Steyer et al., 1997). An depiction of this model is presented in Figure 1. These models can offer exactly the same information as latent cross-lagged (autoregressive) models (i.e., while autoregressive effects control the method effects and the stable part of the construct, cross-lagged effects explain the "leftover" variability not accounted for by autoregressive effects; Geiser, 2013) but with some additional advantages. For example, in the latent change model, the "leftover" variability is presented as an independent latent variable representing the true change (without random measurement error) between temporal points. This allows to clearly identify the effect of the first-wave variables on the second-wave variables after partialling out the autoregressive effects. Furthermore, the creation of latent change variables allows estimating the true intraindividual change (error-free) in each variable (in latent cross-lagged models, this change is "measured" indirectly using the residuals). Getting access to this information is crucial to study individual differences but also to obtain additional information regarding the relationship between variables from both waves (i.e., a lack of relationships could be due to low variability between both temporal points).

We used Mplus Version 7.11 (Muthén & Muthén, 1998–2012). Full information maximum likelihood was used to estimate missing values. Since the data did not meet the multivariate normality assumption, maximum likelihood with restricted standard errors (MLR) estimator was used to determine the parameters. The scaling correction factor for MLR-χ^2 is denoted as *c*. Acceptable model fit was set at RMSEA $\leqslant .06$, CFI $\geqslant .95$, and TLI $\geqslant 0.95$, following Hu and Bentler (1999). The Satorra–Bentler scaled chi-square (Satorra & Bentler, 2001) was used to estimate chi-square differences between the nested models. Model fit and search of scalar invariance (equal structure, factor loadings, and intercepts) were conducted as described by MacCallum (1986).

First, we fitted a model with all the variables (quantity and quality of contact, contribution to inequality, system justification, meritocratic beliefs, and materialism) at Waves 1 and 2, including indicator-specific effects as factors to control

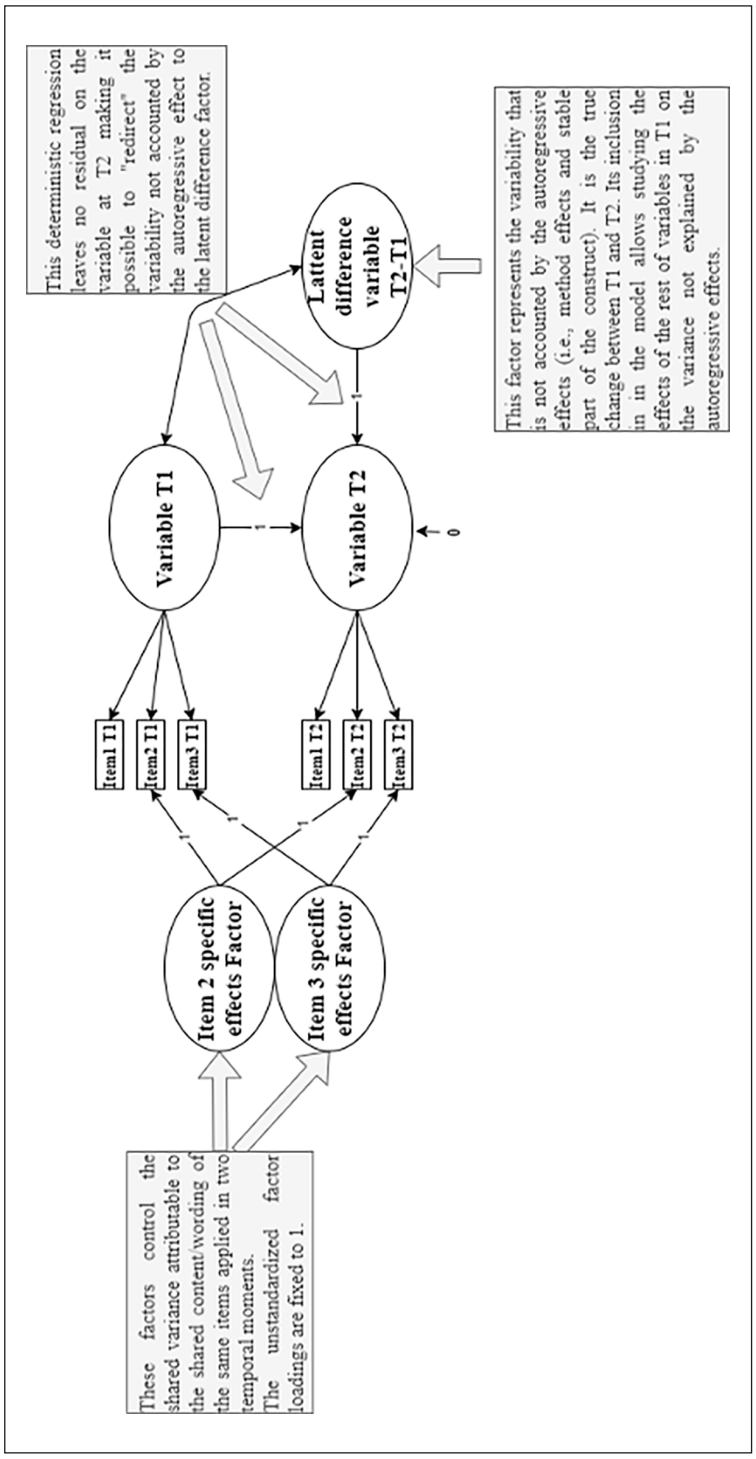


Figure 1. Depiction of a latent change model.

Table 1. Zero-order correlations between variables after controlling cross-lagged effects.

	1	2	3	4	5	6	7	8	9	10	11
1. Quantity (OV) W1											
2. Quality W1	.23**										
3. Inequality W1	−.14**	−.24**									
4. Materialism W1	−.05	−.13**	.33**								
5. System justification W1	−.15**	.16**	.24**	.24**							
6. Meritocratic beliefs W1	−.10*	−.21**	.25**	.32**	.64**						
7. Quantity diff.	−.59**	−.11*	.02	−.05	.05	.00					
8. Quality diff.	−.07	−.52**	.00	−.08	.02	.07	.17**				
9. Inequality diff.	.08	.04	−.40**	.00	−.10	−.12*	−.06	−.01			
10. Materialism diff.	−.02	−.04	−.06	−.27**	−.06	−.11	.10	.02	.08		
11. System justification diff.	.04	−.03	.05	−.04	−.29**	−.07	.02	−.07	.04	.22*	
12. Meritocratic beliefs diff.	.03	.05	−.02	−.06	−.10	−.34**	−.03	−.09	.04	.22**	.41**

Note. Diff. = difference; W1 = Wave 1; OV = observed variable.
**$p < .01$. *$p < .05$.

for method effects (i.e., to control for method effects due to the shared content/wording of the items applied at Waves 1 and 2; see Geiser et al., 2010) in all the indicators except from Item 2 of the Contribution to Inequality Scale, whose indicator-specific factor had a variance that was not statistically different from zero. The metric of the latent factors was defined by fixing the loading of the first item to 1. In the case of the item-specific factors, all factor loadings were fixed to 1.[1] Fit indicators were: MLR-χ^2 (1694) = 2434.88, $p < .001$ ($c = 1.06$), RMSEA = .03, 95% CI [0.03, 0.03], CFI = .95.

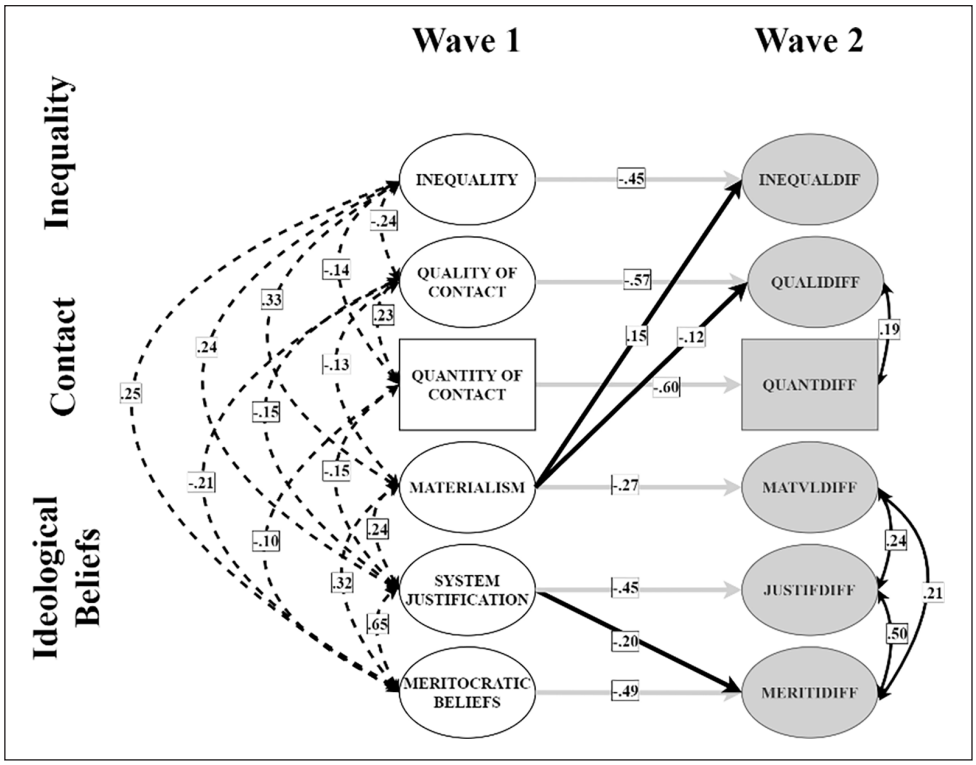
Second, we examined the longitudinal measurement invariance of the previous model. To that end, we constrained the model to obtain scalar invariance across time (equal factor loadings and intercepts between the same measures in the two waves). However, since this model showed statistical differences with the free model (i.e., not all the intercepts or factor loadings could be assumed as invariant between waves), we freed, one by one, according to the modification indices, the following intercepts to achieve partial invariance: i2, i6, and i7 in system justification; and i2, i3, and i4 in meritocratic beliefs. Additionally, factor loadings of the i7 in system justification were also freed. According to Byrne et al. (1989), the lack of invariance in just these parameters does not prevent adequate interpretations of the latent difference measures. Fit indicators were: MLR-χ^2 (1736) = 2489.34, $p < .001$ ($c = 1.06$), RMSEA = .03, 95% CI [0.03, 0.03], CFI = .95. Comparison between the free and the partial-scalar invariance models showed no statistically significant differences, MLRχ^2-*diff* (42) = 53.95, $p = .102$.

Third, we configured the latent change model (see Geiser et al., 2010; Steyer et al., 1997). In this model, the variable quantity of contact (the only nonlatent variable in the model) in the second wave was substituted by the difference in quantity of contact between waves (i.e., the subtraction of the values of the first wave from those of the second wave). Since this is the only observed variable in the model, this change did not affect model fit. Fit indicators confirmed the good fit of the longitudinal model, MLR-χ^2 (1736) = 2489.34, $p < .001$ ($c = 1.06$), RMSEA = .03, 95% CI [0.03, 0.03], CFI = .95.

Zero-order correlations between all the variables included in the model are presented in Table 1. These correlations let us affirm that the contact variables at Wave 1 present no relationships with variations in contribution to inequality at Wave 2 (after controlling for cross-lagged effects).

Finally, in the same model, we regressed all the latent difference variables on all the variables of the first wave to explore their predictive capability

Figure 2. Simplified representation of the latent change model.



Note. INEQUAL = contribution to inequality; QUAL = quality of contact; QUANT = quantity of contact; MATVL = materialism; JUSTIF = system justification; MERITI = meritocratic beliefs. The suffix "DIFF" indicates latent difference. Only significant relationships are represented.

with a special interest in the relationship between contact variables and contribution to inequality. The resulting model was statistically equivalent to the previous one. Its standardized factor loadings, correlations, and regression coefficients are displayed in Figure S1 in the supplemental material; intercepts and unstandardized factor loadings are presented in Table S2 in the supplemental material. For the sake of clarity, we present a simplification of the latent change model in Figure 2.

Descriptive statistics. Means and standard deviations of the latent variables and quantity of contact are presented in Table 2. Observation of the averaged values led us to confirm that our sample presented medium to high levels of contact (quality and quantity), low levels of ideological beliefs (materialism, system justification, and meritocratic beliefs), and low levels of contribution to inequality. As it can be observed, the true change that took place between the two waves was small; this could have affected the size of the detected effects.

Cross-sectional analysis of Wave 1. As indicated by dotted arrows in Figure 2 (the complete model is provided in Figure S1 in the supplemental material), relationships between the variables of the first wave are moderate but in alignment with the theoretical assumptions. As expected, higher scores on contribution to inequality tended to co-occur with lower scores on contact, such that the less frequent and less positive contact with working-class people, the greater the individual contribution to inequality. Moreover, quality of contact presented a stronger relationship with

Table 2. Means and standard deviations of the latent variables included in the latent change model, and R^2 of the variables at the second wave.

	Wave 1		Latent difference		
	M	*SD*	*M*	*SD*	R^2
Quantity (observable)	4.98	2.48	−0.23	2.28	.35
Quality	4.42	1.02	−0.32	1.06	.31
Inequality	2.21	1.27	0.23	1.08	.19
Materialism	1.37	1.32	0.12	0.70	.08
System justification	1.54	0.99	0.13	0.61	.12
Meritocratic beliefs	2.73	1.22	0.00	0.74	.14

contribution to inequality than quantity of contact did. Ideological beliefs showed positive relationships with contribution to inequality, which was slightly stronger in the case of materialism. The relationship between system justification and meritocratic beliefs was moderate to strong.

Even though the relationships are modest, their pattern allows us to identify two different statistically significant profiles in our sample. Using the "cluster" R package (Maechler et al., 2021), we performed a hierarchical cluster analysis (Euclidean distance and Ward method) on the standardized factor scores of the first-wave variables, detecting two differentiated profiles (see Figure 3; Cluster 1 $n = 406$; Cluster 2 $n = 104$). The Bonferroni-corrected *t* tests between clusters showed statistically significant differences in all variables (accomplished using the "rstatix" R package; Kassambara, 2021). The result of these analyses is presented in Figure 3 (the plot was implemented using the "ggpubr" R package; Kassambara, 2020). Whereas Cluster 1 was composed of people with higher levels of contact and lower levels of ideological beliefs and contribution to inequality, Cluster 2 people presented the opposite configuration.

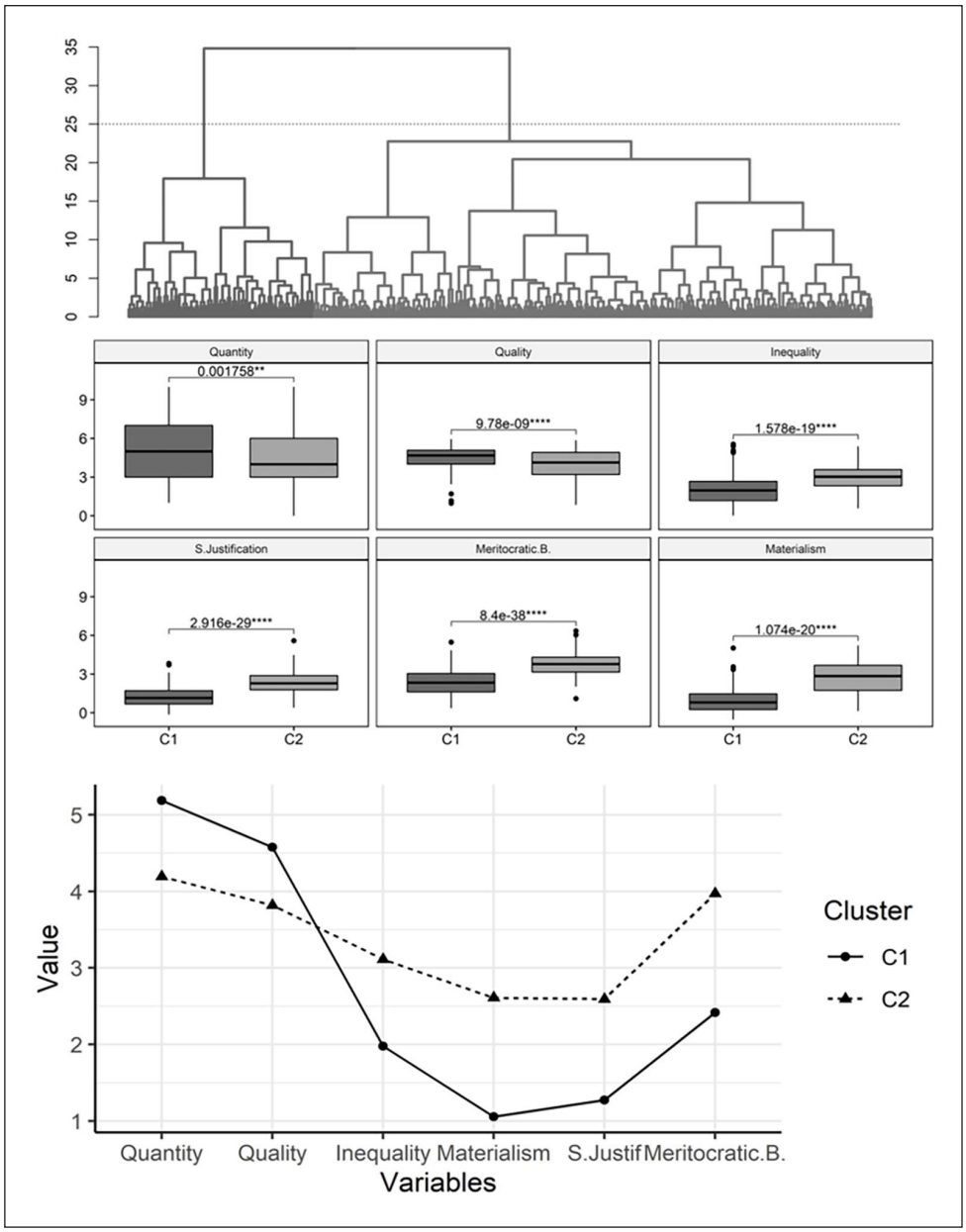
Longitudinal analyses. Curved arrows on the left side of Figure 2 (see also the complete model in Figure S1 in the supplemental material) represent the relationship between variables at the second wave after controlling for autoregressive effects (method effects and the stable part of the construct), that is, the relationship between the true changes in the second-wave variables. Both quantity and quality of contact changed in the same direction, such that decreases in quantity of contact tended to co-occur with decreases in quality of contact. However, changes in contribution to inequality, our variable of interest, did not covariate with changes in the contact variables. Ideological beliefs tended to change together in the same direction but none of them covariated with changes in contribution to inequality. Thus, all relationships considered, it could be assumed that changes in the contact variables, those arisen in contribution to inequality, as well as those in ideological beliefs took place independently.

Finally, the black, straight arrows in Figure 2 (see also Figure S1 in the supplemental material) represent the predictive effects of the first-wave scores on second-wave changes (equivalent to cross-lagged effects). Initial scores on quantity and quality of contact did not predict changes in contribution to inequality. Only materialism scores explained part of the contribution to inequality scores (positive relationship, small effect) and also, unexpectedly, part of the changes in quality of contact scores (negative relationship, small effect). Even though it was not part of our a priori predictions, system justification scores accounted for part of the change in meritocratic beliefs scores in the second wave (positive relationship, small effect). This could be explored further in follow-up research.

Discussion

Study 1 suggested that lower levels of contribution to inequality are present in people with more

Figure 3. Dendrogram, cluster profiles, boxplots, and Bonferroni-corrected *t*-test comparisons.



Note. C1= Cluster 1; C2 = Cluster 2; S. Justif = system justification.

and better contact with working-class people and with less willingness to justify the system and weaker meritocratic beliefs and materialistic values. As expected, quality of contact presented a slightly greater (negative) relationship with contribution to inequality than quantity of contact did. However, changes in contribution to inequality over time did not correspond with changes in

quantity and quality of contact or other variables, with the exception of materialism. In fact, results of the longitudinal design and the true change model indicate that, in a natural context without any intervention, the change experienced by our sample in the studied constructs (i.e., latent variables) was small. This small variability in the latent change scores of our sample might explain why changes in contribution to inequality are not related to changes in quantity and quality of contact. In that case, we cannot rule out the possibility that changes in class-based contact, when they are large enough, can lead people to contribute to or fight against inequality. Other possibilities are that class-based contact does not affect contribution to inequality at all, or that it does so but only indirectly through other variables.

We tried to clarify this point in another study. Given that, in natural contexts, class-based contact does not seem to vary substantially over time, in Study 2, we tested whether an external intervention on contact can generate changes in personal contribution to inequality. To that end, we experimentally manipulated the quality of recalled contact with working-class people before assessing participants' contribution to inequality. Additionally, it could be argued that our measure of contribution to inequality may be too vague, because it does not encompass concrete actions. To address this limitation, we added a second outcome measure—participants' willingness to take part in specific collective actions (e.g., signing a petition, attending demonstrations) on behalf of working-class people.

Study 2

In Study 2, we manipulated the quality of recalled contact by making positive or negative interactions with working-class people salient, and then measured anticipated contribution to inequality and willingness to participate in collective action on behalf of the working class. Since we were mainly interested in the effects of contact, we dropped the ideological variables of the previous study. We expected that recalling positive contact with the working class would lead to a reduced contribution to inequality and higher willingness to participate in collective action as compared to recalling negative contact.

Method

Participants. Since we did not have information about participants' social class and response rates are low with volunteers, we sent invitations to 2,500 people. Inclusion criteria to recruit middle and upper class participants were the same as in Study 1. We recruited 227 Spanish participants (64.3% women; $M_{age} = 35.80$, $SD = 13.33$), who completed an online questionnaire and matched those criteria. Thus, we performed a sensitivity analysis using G*Power (Erdfelder et al., 1996) to determine the minimum size effect to reject the null hypothesis with our sample size, assuming an alpha level of .05 and 80% power. The results indicated that an $f^2 \geq .04$ ($\eta^2_p \geq .04$) for the MANOVA global effect and for the special effects would be enough to reject the null hypothesis (the protocol of power analyses is presented in the supplemental material).

Procedure. Participants were invited to take part in a study about social class. They were first asked about their family income per year with the options: < €20,000, from €20,0000 to €60,000, or > €60,000. Then, they read that social class category membership depends on multiple factors such as level of income, education, and occupation, and they were asked to indicate whether they themselves belonged to the low, middle, or upper class. Those who reported an income over €20,000 and self-identified as middle ($N = 225$) or upper class ($N = 2$) were included in the study.

Participants were randomly assigned to the positive contact ($n = 114$) or the negative contact ($n = 113$) condition. Participants in the positive contact condition were asked to describe in a paragraph a situation in which they had a positive experience with one or more lower class people. These are two examples of descriptions: "In a hospital room. She helped me a lot to cope with a serious illness. The feeling was of gratitude and joy for having had the luck to meet her" and "I started a small horticultural business with some friends, from time to time we gave products to underprivileged people. Their

responses were always joy, gratitude, respect . . . And it made us very happy to help other people."

Participants in the negative contact condition were asked to describe a situation in which they had a negative experience with one or more lower class people. This is one example of a description:

> At the exit of a supermarket, a man who spends the day asking for money in the parking lot chased me to the car insisting that I had to give him some money. I was going alone and it was late, I was scared and I felt overwhelmed and powerless.

After the manipulation, participants completed the dependent variables on scales ranging from 0 (*strongly disagree*) to 6 (*strongly agree*).

Contribution to inequality was evaluated by means of the same items as in Study 1 ($\alpha = .78$), but oriented to the near future (e.g., "I will contribute to keeping society the way it is").

Additionally, we measured willingness to participate in seven collective actions (based on Duncan, 1999) on behalf of the working class, such as "actively participating in an organization that defends the rights of the working class" ($\alpha = .93$).

Results

Manipulation check. To check whether participants in the positive contact condition described more positive experiences than those in the negative contact condition, we used the Linguistic Inquiry and Word Count software (LIWC, 2015 version 1.6.0; Pennebaker & Francis, 1999). Content analysis revealed that descriptions from participants in the positive contact condition had a more positive emotional tone ($M = 4.47$, $SD = 3.73$) than those from participants in the negative contact condition ($M = 1.21$, $SD = 1.49$), $F(1, 225) = 74.47$, $p < .001$, $\eta^2_p = .25$. Also, as expected, descriptions from participants in the negative contact condition had a more negative emotional tone ($M = 3.71$, $SD = 3.25$) than those from participants in the positive contact condition ($M = 0.87$, $SD = 1.41$), $F(1, 225) = 73.21$, $p < .001$, $\eta^2_p = .25$.

Multivariate analysis. Contribution to inequality and willingness to participate in collective action correlated negatively, $r(225) = -.44$, $p < .001$. We conducted a MANOVA on these two variables considering experimental condition as predictor. The multivariate effect of condition was significant, Wilk's $\lambda = .96$, $F(2, 224) = 5.09$, $p = .007$, $\eta^2_p = .04$. Future research could study this effect on the linear combination of both variables.

Contribution to inequality. A univariate analysis on contribution to inequality revealed a significant effect of condition, $F(1, 225) = 8.86$, $p = .003$, $\eta^2_p = .04$, indicating that participants in the positive contact condition ($M = 1.38$, $SD = 1.05$) anticipated contributing to inequality less in the near future than those in the negative contact condition did ($M = 1.84$, $SD = 1.29$), as Figure 4 shows.

Collective action. A univariate analysis on willingness to participate in collective action on behalf of the working class revealed a significant effect of condition, $F(1, 225) = 5.33$, $p = .022$, $\eta^2_p = .02$, indicating that participants in the positive contact condition ($M = 3.57$, $SD = 1.66$) were more willing to collectively defend the rights of working-class people than those in the negative contact condition ($M = 3.07$, $SD = 1.63$; see Figure 4).

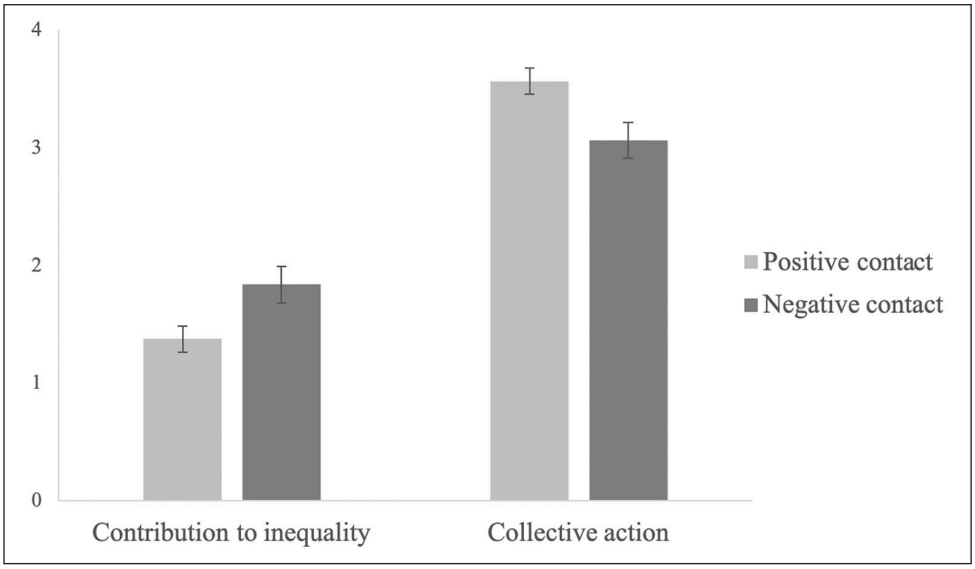
Discussion

Study 2 revealed that quality of the recalled contact had a causal effect on anticipated contribution to inequality and willingness to participate in collective action on behalf of the working class. Those participants who were asked to recall a positive interaction with working-class people anticipated a weaker contribution to inequality in the near future and were more willing to collectively defend the rights of working-class people than those who were asked to recall a negative interaction.

General Discussion

Rampant inequality poses a considerable risk to political and social stability and harms the physical

Figure 4. Effect of quality of contact on anticipated contribution to inequality and willingness to participate in collective action on behalf of the working class.



and mental health of citizens (UNDESA, 2020; Wilkinson & Pickett, 2009). Despite the severity of its effects, policies aimed at reducing inequality, such as higher taxation, usually find strong opposition from the population, especially among economically advantaged groups. Understanding the factors that promote acceptance of inequality and devising ways to overcome them is key to move towards more egalitarian societies. The position of the middle and upper classes is especially important to achieving social change because they have more resources than the working classes to make themselves heard or to influence political decisions through lobbying.

Based on previous findings on the potential of intergroup contact for social change, in the first study of the current research, we analyzed whether having frequent or positive contact with working-class people would decrease contribution to inequality among middle and upper class individuals over time, controlling for several ideological variables that could strengthen one's acceptance of the status quo. Our results showed, as expected, that lower levels of contribution to inequality tend to co-occur with higher quantity and quality of contact with working-class people, less willingness to justify the system, and weaker meritocratic beliefs and materialistic values. In line with previous findings (e.g., Binder et al., 2009; Dovidio et al., 2017; Vázquez et al., 2020), quality of contact had a slightly greater (negative) relationship with contribution to inequality than quantity of contact. However, longitudinal analyses revealed that changes in contribution to inequality were not associated with changes in the quantity and quality of contact or other variables (except for materialism). This lack of correspondence could be due to the fact that the natural change experienced by our participants in the studied constructs (i.e., latent variables) was small. In fact, when we included an experimental manipulation in Study 2, we obtained causal evidence on the influence of quality of the recalled contact on contribution to inequality and, additionally, on a more concrete measure of behavioral intentions. Recalling a positive (vs. negative) interaction with working-class people reduced one's personal contribution to inequality and promoted willingness to participate in collective action for the benefit of working-class people among middle and upper class individuals. The effect sizes (ds = 0.40 and 0.29) were modest but

similar to the average effects found for face-to-face ($d = 0.28$) as well as extended and imagined ($d = 0.37$) contact in a recent meta-analysis on methods for reducing prejudice (Paluck et al., 2021).

The finding that positive contact with the working class undermines support for the status quo and increases interest in collective action for equality among middle and upper class individuals resonates with other studies that explored the effect of intergroup contact based on other categorization criteria (e.g., Black and White people: Dixon et al., 2010; heterosexual and sexual minority groups: Reimer et al., 2017). The merit of the current research lies in the exploration of a type of contact hitherto ignored in the literature, that is, contact between members of different social classes. Our results suggest that class-based contact might reduce reluctance to social change among members of economically advantaged groups similarly to effects found for contact between other types of groups.

Although no strong a priori hypotheses were held for the control variables, it was interesting to note that system justification, meritocratic beliefs, and materialism tended to change together in the same direction. Changes in system justification and meritocratic beliefs were not associated with changes in contribution to inequality nor in class-based contact. However, materialism seemed to reduce the quality of class-based contact and increase contribution to inequality over time. Those participants who held materialistic values in the first wave reported less positive contact with the working class and greater contribution to inequality in the second wave. This finding is consistent with previous evidence that materialism is associated with class prejudice (Vázquez & Lois, 2020). In addition to the ideological factors considered in Study 1, different control variables could be explored in future studies, such as social dominance orientation or individualism.

Our results have some relevant implications. The findings suggest that urban planning that promotes residential segregation and class ghettos (Sennett, 2018), as often found in more unequal countries (Tammaru et al., 2020), may reduce opportunities for positive interactions between economically advantaged and disadvantaged people. Perhaps class relationships differ from other forms of intergroup relations in that a certain degree of contact is sought by members of the middle and upper classes because working-class members are employed for menial tasks such as cleaning or caring responsibilities. However, the absence of opportunities for positive contact beyond unequal situations where the working class provides a service to the upper and middle classes (e.g., domestic service) could negatively impact on social cohesion.

We must note some limitations of the current research that could be addressed in future studies. Since we only focused on middle and upper classes, it is unclear whether the positive contact experienced by working-class individuals operates as a mobilization or demobilization factor. There is evidence that positive intergroup contact can have sedative effects among members of socially disadvantaged groups by weakening their interest in collective action to challenge the status quo, because it leads them to pay less attention to group-based disparities and to experience less anger in reaction to those disparities (Dixon et al., 2010; Hayward et al., 2017). Future studies could test whether positive contact with middle and upper classes reduces contribution to inequality among working-class members and, in such case, how those effects could be avoided.

Second, we detected small changes in all the variables with the latent change model. In light of the results of the two studies, we consider that the advantages of the latent change models could have better results under circumstances of greater variability between temporal points. Along this line, Study 2 provided causal evidence that recalling positive contact reduces anticipated contribution to inequality and fosters willingness to participate in collective action for the benefit of the working class. These results are also valuable to the literature on contact in general, where experimental studies are rare—only 5% of studies in Pettigrew and Tropp's (2006) meta-analysis manipulated contact. However, it remains to be determined whether recalling a past contact experience with

working-class people has comparable consequences as experiencing contact itself. Although there is no systematic evidence on this comparison, and reports of past experiences are subject to different cognitive biases (e.g., Schwarz, 2007), Droogendyk et al. (2016) found similar effects of contact on collective action in two experiments in which recall of and real intergroup interactions were manipulated. Furthermore, describing a past personal experience with the outgroup requires retrieving and selecting an important episode among several, which would better reflect the ecology of intergroup contact than experiencing an isolated interaction in the laboratory. On the other hand, as we did not include a control condition, we cannot be sure which type of contact, positive or negative, is more influential. A Future studies might address these two limitations by comparing the effects of recalled and actual, positively and negatively valenced interactions with a no-contact condition.

In conclusion, this research provides preliminary evidence that positive (vs. negative) contact with the working class reduces contribution to inequality and increases willingness to participate in collective action on behalf of the working class among members of middle and upper classes. Although more research is needed to clarify the effects of contact experienced by working-class people and to explore variations across different countries, these findings suggest that class-based intergroup contact is a relevant factor in explaining people's contribution to inequality. Our results indicate that to have more egalitarian societies, it is necessary to reduce class segregation and create spaces where economically advantaged people can have positive interactions with the working class.

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ORCID iDs

Alexandra Vázquez https://orcid.org/0000-0002-6040-9102
Lucía López-Rodríguez https://orcid.org/0000-0002-9153-0220
Hanna Zagefka https://orcid.org/0000-0003-1598-0059

Supplemental material

All data and supplemental materials are available at the Open Science Framework (https://osf.io/yvqgb/?view_only=23427c94265a42928b4fe55f5d0b554e). There is sufficient information for an independent researcher to reproduce the reported results and methodology.

Note

1. Due to the high collinearity between indicator-specific effect factors of Items 2 and 8 and Items 4 and 6 of the Meritocratic Beliefs Scale, each set of items loaded in the same, respective, indicator-specific effect factor. Additionally, we correlated the uniqueness of the following items due to their explicitly shared content: contribution to inequality i3–i4 (first wave: $r = .49$, $p < .001$; second wave: $r = .51$, $p < .001$); system justification i3–i7 (first wave: $r = .35$, $p < .001$; in the second wave, it was fixed to zero because it was statistically non significant, $r = .35$, $p < .001$) and i2–i5 (second wave: $r = .31$, $p < .001$; in the first wave, it was fixed to zero because it was statistically nonsignificant); and materialism i5–i6 (second wave: .25, $p < .001$).

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