

Social Psychological Bulletin

Psychologia Społeczna

Support for Group-Based Inequality Among Members of Low-Status Groups as an Ingroup Status-Enhancement Strategy

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Social Psychological Bulletin, 2021, Vol. 16(2), Article e5451, <https://doi.org/10.32872/spb.5451>

Received: 2020-12-15 • Accepted: 2021-03-27 • Published (VoR): 2021-07-30



Handling Editor: Jarosław Klebaniuk, University of Wrocław, Wrocław, Poland

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Supplementary Materials: Data, Materials [see [Index of Supplementary Materials](#)]



Abstract

We discuss the idea that competition-based motives boost low-status group members' support for group-based hierarchy and inequality. Specifically, the more low-status group members feel motivated to compete with a relevant high-status outgroup, based on the belief that existing status positions may be reversed, the more they will defend status differentials (i.e., high social dominance orientation; SDO). Using minimal groups ($N = 113$), we manipulated ingroup (low vs. high) status, and primed unstable status positions to all participants. As expected, we found that SDO positively mediates the relation between ingroup identification and collective action, when ingroup's status is perceived to be low and status positions are perceived as highly unstable. We discuss the implications of considering situational and contextual factors to better understand individuals' support for group-based hierarchies and inequality, and the advantages of considering ideological processes in predicting collective action.

Keywords

ingroup identification, social structure, social competition, social dominance orientation, collective action



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- Our work discusses the idea that competition-based motives boost low-status group members' SDO, that is, when they believe the existing status positions can be reversed.
- SDO endorsement among members of low-status groups is expected to be negatively associated with group identification and collective action, because support for hierarchical intergroup relations and status differentials is believed to go against their self- and group interests.
- Results showed that SDO positively mediates the relation between group identification and collective action, when ingroup's status is perceived to be low and status positions are perceived as highly unstable (i.e., SDO as an ingroup status-enhancement strategy).

We often observe members of low-status groups engaging in actions to achieve a more advantageous position in the status hierarchy. Engaging in such actions can be motivated either by concerns about equal treatment, equal opportunities, and equal rights for all social groups (e.g., civil rights movements), or to achieve more power, more privilege and more resources than another relevant high-status outgroup (e.g., competition-based intergroup contexts, like sports, university rankings, or political elections; cf. Rubin et al., 2014). The first motivation directs action towards decreasing status distinctions between groups and achieve a fairer and more equal distribution of social power, privileges and resources, anchored in hierarchy-attenuating ideologies (e.g., low social dominance orientation; SDO; Jost et al., 2017; Pratto et al., 2006). The latter motivation, on the contrary, directs action towards reversing the existing status positions (cf. Rubin et al., 2014). In other words, members of low-status groups may be more interested in achieving a higher status in the existing status hierarchy, legitimating the existing hierarchical system and status differentials between groups, instead of just attenuating intergroup status/power differentials (i.e., status stratification).

As a result of this competition-driven motivation, low-status groups should defend and support hierarchical social systems, anchored in hierarchy-enhancing ideologies (cf. Pratto et al., 2006). This can occur as a result of ingroup interest (e.g., to enhance their disadvantaged position within the existing status hierarchy, at some point in the future; Owuamalam et al., 2016, 2017, 2018, 2019a, 2019b; see also Tajfel & Turner, 1979), rather than being caused by a dissonance-induced autonomous system justification motive (e.g., Jost et al., 2004; Jost & Hunyady, 2003, 2005; cf. Owuamalam & Spears, 2020).

Based on the above idea, we propose that members of low-status groups may strengthen their support for group-based hierarchies and inequality (i.e., SDO), as an ingroup status-enhancement strategy to guarantee the legitimacy of a future ingroup high-status. In turn, SDO should be positively associated with actions aimed to improve ingroup conditions, status, power and influence, and achieve a positive ingroup distinctiveness (i.e., collective action tendencies; e.g., Tajfel, 1978).

The Roots of Social Competition

According to social identity theory (SIT), the basis for individuals' motivation to engage in social competition through collective efforts against a disadvantaged situation or improve an unfavorable status position (i.e., social change strategy) are group identification and perceived characteristics of the existent social structure (e.g., Tajfel, 1978). Indeed, firstly, members of low-status groups have to see themselves as members of the disadvantaged or low-status group, and then, collective action occurs to the extent that individuals perceive group boundaries as impermeable, and intergroup status positions as illegitimate and susceptible to change (i.e., unstable intergroup relations) (e.g., Tajfel, 1978; Tajfel & Turner, 1979). As a result, group commitment is reinforced and intergroup competition arises (ingroup favoritism), encouraging actions designed to change the existing status hierarchy and reverse the relative status positions between their low-status group and another relevant high-status outgroup (e.g., Tajfel & Turner, 1979). In other words, social competition fosters individuals' motivation to engage in system-challenging behaviors, through collective actions.

Support for Status Hierarchies and Intergroup Inequality

According to social dominance theory (SDT; e.g., Sidanius et al., 1994), all social systems tend to be organized as group-based hierarchies where at least one group has higher status and power than the others. Social systems rely on ideologies or legitimizing myths, that either promote or attenuate intergroup hierarchies (hierarchy-enhancing vs. hierarchy-attenuating legitimizing myths). The extent to which these ideologies or legitimizing myths are accepted by individuals is represented by SDO, reflecting the "desire to establish and maintain hierarchically structured intergroup relations regardless of the position of one's own group(s) within this hierarchy" (Sidanius et al., 2017, p. 152) and the "extent to which one desires that one's ingroup dominate and be superior to out-groups" (Pratto et al., 1994, p. 742).

The Context-Dependent Nature of SDO

Although SDO has been most commonly conceptualized and operationalized as a relatively stable individual general orientation toward intergroup inequality (e.g., Sidanius et al., 1994), evidence has shown that SDO may, in fact, be context dependent. For instance, SDO levels are shaped by group membership and degree of ingroup identification, and are sensitive to social-contextual factors, such as social competition, social influence processes, ingroup status, group dynamics, expected power, and perceptions of threat (e.g., Duckitt & Sibley, 2009; Guimond et al., 2003; Jetten & Iyer, 2010; Lehmler & Schmitt, 2007; Liu et al., 2008; Morrison et al., 2009; Reynolds et al., 2001; Schmitt et al., 2003). Importantly, it has been found that contexts of social competition increase individuals' SDO (e.g., Duckitt & Sibley, 2009; Perry et al., 2013). Thus, under such contexts, SDO

reinforcement, among high-status groups should occur because they feel motivated to *protect* and *maintain* their superior position, and among low-status groups, should occur because they feel motivated to *prove* and to *establish* their superiority (cf. Duckitt & Sibley, 2009).

In sum, the conceptualizations of SDO as a stable personality trait, or as a moderator of the effect of situational factors, or as a mediator between situational or contextual factors and individuals' attitudes, have been widely discussed in the literature (e.g., Guimond et al., 2003; Schmitt et al., 2003). In particular, the conceptualization of SDO as a mediator has gained continuous evidence support, that is, SDO as function of a situation (e.g., contingent to group membership, identities, features of the social structure), acting to justify and legitimate individuals' attitudes and/or behaviors (cf. Guimond et al., 2003).

The Two Dimensions of SDO

Although the SDO scale was initially conceptualized and designed to be unidimensional (Pratto et al., 1994), subsequent research has demonstrated the need for this construct to be construed as having in fact two distinct subdimensions (Ho et al., 2012, 2015; Jost & Thompson, 2000; Kugler et al., 2010): one that measures support for group-based dominance hierarchies (SDO-D) and another that measures opposition to equality in social systems or antiegalitarianism (SDO-E). For instance, Kugler et al. (2010), proposed that each component explains different kinds of political views, and arises from different motivations. Specifically, these authors propose that SDO-D reflects social identity motives, concerns for ingroup promotion and is strongly related to outgroup derogation and hostile competition; SDO-E reflects system justification motives, more associated with desire to maintain the existing social system (Kugler et al., 2010).

Accordingly, Ho et al. (2012, 2015) stressed that these two subdimensions reflect two distinct psychological orientations and that one should examine the two separately to better understand and more accurately predict intergroup attitudes and behaviors. Thus, Ho et al. (2012, p. 585) define SDO-D "as support for group-based dominance hierarchies in which dominant groups actively oppress subordinate groups [and] will be related to phenomena such as support for aggressive intergroup behavior, support of overtly negative intergroup attitudes, support for negative allocations to outgroups, and the perception of group-based competition.". SDO-D reflects beliefs that some groups are "superior" and "more worthy" than others and should predict the "legitimization or justification of extremely hierarchical systems of group-based dominance" (Ho et al., 2012, p. 585). On the other hand, "SDO-E is defined as opposition to group-based equality. This includes an aversion to the general principle of equality and to reducing the level of hierarchy between social groups. Opposition to equality translates psychologically into support for exclusivity. People who want groups to be unequal wish to exclude certain groups from access to resources that could elevate their social position." (Ho et al., 2012, p. 585). SDO-E predicts legitimization and justification of stratified social

systems and support for differential intergroup access to power and resources (Ho et al., 2012). Moreover, the differential effects of SDO-D and SDO-E seem to depend on the sociostructural context (Ho et al., 2012), which is a central aspect in the present work.

SDO Among Low-Status Groups

Previous literature established that SDO reinforcement, among members of low-status groups, occurs because they feel negatively about their group membership or even because they have more positive feeling about the high-status outgroup, that is, outgroup favoritism (e.g., Jost et al., 2004; Levin & Sidanius, 1999) or because it is a way for them to deal and cope with cognitive dissonance, anxiety, discomfort and uncertainty, resulting from their disadvantaged or low-status condition, leading them to engage in intense justifications or rationalizations of the *status quo* (e.g., Jost et al., 2004). This is expected to occur especially when status hierarchies are perceived to be permeable (e.g., Day & Fiske, 2017), legitimate and stable, thus, leading individuals to perceive that the ingroup disadvantage situation is fair and/or to be unable to conceive cognitive alternatives to the *status quo* (e.g., Brandt & Reyna, 2017; Jost et al., 2012; Kay & Zanna, 2009; Laurin et al., 2013). Thus, the endorsement of system-justifying or hierarchy-legitimizing ideologies, such as SDO, by members of low-status groups, is expected to fulfil a palliative function by allowing people to feel better about their disadvantaged situation (e.g., Jost & Hunyady, 2003, 2005). As a result, SDO is expected to be negatively associated with ingroup identification (e.g., Jost & Hunyady, 2003, 2005; Laurin et al., 2013; Levin & Sidanius, 1999) and willingness to engage in collective action, among members of low-status groups (e.g., Jost et al., 2012; Jost et al., 2017; Osborne et al., 2019). Indeed, system-sustaining attitudes and behaviours are believed to go against self- and group interests.

Nevertheless, recent evidence suggests that members of disadvantaged or low-status groups may support social systems that, at a first glance, seem to disadvantage their group, because they believe they can benefit from such systems in the future (Caricati & Sollami, 2017; Owuamalam et al., 2016, 2017, 2018). Indeed, the existing social system may allow their group to guarantee future ingroup status-enhancement and improve their status in the status hierarchy (e.g., Owuamalam et al., 2017). Therefore, one may expect that this *hope for the future ingroup high-status* motive to support hierarchical social systems (e.g., Owuamalam et al., 2017), may lead members of low-status groups to endorse hierarchy-enhancing ideologies (i.e., SDO), because they believe in the possibility of future ingroup status-enhancement and ingroup high-status. Thus, among members of low-status groups, ingroup identification should be positively related with SDO, as a way to support hierarchical social organization and status differentials, that will allow ingroup future status improvement and legitimate future high-status (e.g., Owuamalam et al., 2018). Of course, this process should only occur if the status hierarchy is perceived

to be unstable, thus, susceptible to change in the future (e.g., Owuamalam et al., 2016, 2017, 2018).

Therefore, although SIT's traditional view expects that social competition motives should foster low-status groups' members motivation to take actions to challenge the existing social system (i.e., system-challenge attitudes and behaviours), as the only way to improve ingroup situation, low-status groups' members may also perceive the existing social system as the vehicle for their group to improve its social status in the future (e.g., Owuamalam et al., 2018). Thus, for members of low-status groups, the "system" may be "not just a source of stasis and oppression, but may also, perhaps paradoxically, be a vehicle for social change" (Owuamalam et al., 2017, p. 96). In this case, social competition may also foster system-sustaining attitudes and behaviours on behalf of future ingroup high-status (see Owuamalam et al., 2016).

The Present Research

We propose that members of low-status groups endorse SDO to ensure and legitimate future ingroup status-enhancement. Specifically, we expect that under a competitive social structure condition, in which status positions between groups are perceived to be unstable, thus, allowing the reversibility of intergroup positions, the more members of disadvantaged or low-status groups feel committed to their group (group identification), the more they should display SDO and engage in social competition (collective action), reflecting an ingroup status-enhancement strategy.

In order to test the preceding idea, we conducted a laboratory-experiment with minimal groups (Deductive vs. Inductive thinkers; Tajfel et al., 1971; Travaglino et al., 2014), in which we manipulated high vs. low ingroup relative status (Federico et al., 2013). Additionally, we led all participants to believe that group boundaries were impermeable, and that the status position occupied by their group (either superior or inferior) was unstable (i.e., we induced the social structure conditions for social competition to emerge among low-status groups).

It is expected that, facing unstable intergroup relations, the more high-status group members identify with the ingroup, the more they should reinforce SDO, as an ingroup bias (e.g., Morrison et al., 2009), and the more they should feel motivated to act on behalf of ingroup's interests (i.e., defend ingroup superiority). In turn, when their superior position is secure and not under threat (stable intergroup relations), they should not feel motivated to reinforce their support for group-based hierarchy and inequality or to engage in collective efforts on behalf of ingroup's interests.

Based on the *hope for the future ingroup high-status* motive (e.g., Owuamalam et al., 2017), we propose that a similar process will occur among low-status group members, not as a defensive strategy but as an offensive competitive strategy. Thus, we expect that, the more participants identify with the low-status group, the more they should support hierarchy-enhancing ideologies (SDO), in order to guarantee a legitimate future

advancement of the ingroup within the prevailing system of status hierarchy, when they believe status positions between groups are unstable, and thus, susceptible to change in the future (H1). In turn, SDO should be positively associated with collective action tendencies (H2). Conversely, when status positions are perceived to be stable, ingroup identification should be negatively associated with SDO (e.g., Laurin et al., 2013; Levin & Sidanius, 1999), and in turn, collective action tendencies should decrease (H3). If this process occurs, we should observe SDO to positively mediate the relationship between group identification and collective action (H4), especially among those who believe their group holds a lower status.

Moreover, based on the conceptualization of each SDO subdimension and taking into account that our groups and competition conditions were artificially created, - and no previous knowledge and contact existed between groups, as is the case with natural groups where the degree of competition and conflict can be more or less intense due to previous contact (e.g., rival teams sports), - we may expect to find our mediation process with only the SDO-E subdimension. Indeed, the support for intergroup differentiation and maintenance of hierarchically structured intergroup relations, linked to the desire of low-status group members to enhance their disadvantaged position within the existing status hierarchy in the future (i.e., SDO as an ingroup status-enhancement strategy), seems more consistent with SDO-E (i.e., support for status differentials between groups), and not necessarily to legitimate effective domination between groups (i.e., SDO-D).

Method

Participants and Design

Participants were first-year students enrolled in a Psychology course (convenience sample). The experiment occurred in the first semester and all students (over 18 years) enrolled in the course participated in it (some working students could not attend due to incompatible schedules). We did not include participants from other years, since they are already familiar with similar empirical studies, which could compromise the study. Since this study involved participants going to the lab of our Faculty and staying there for around 30-40 minutes, it was also difficult to include students from other Faculties/Universities, since it could imply costs, a higher effort and time involved for the participant (e.g., going from their Faculty/home to our lab/Faculty). Thus, the number of participants was dependent on the number of students enrolled in the first year of the Psychology course.

Thus, participants were 150 (135 female and 15 male) first-year psychology students attending a Portuguese University¹, who were randomly assigned to one of the two Social status conditions (Social status: Low or High status). Following Oppenheimer et al.'s (2009) recommendations to increase the validity of our data and statistical power,

we discarded 37 participants who failed the manipulation check of social status manipulation (see below)². The final sample included 113 participants (102 female and 11 male) aged from 18 to 59 years-old ($M = 20.04$, $SD = 5.39$). The majority was Portuguese (92%) and 9 students were from other nationalities (1 American, 6 Brazilian, 1 Chinese, and 1 from Luxembourg; all fluent in Portuguese language).

Participants by condition ranged between $n = 50$ (Low status condition) and $n = 63$ (High status condition).

Participants' sex, nationality, and age did not significantly differ across conditions, respectively, $\chi^2(1) = 0.52$, $p = .533$, $\chi^2(1) = 4.46$, $p = .075$, and $t(111) = .50$, $p = .620$, respectively.

Procedure

Participants were recruited to participate in the study as a curricular activity. Participants came to the laboratory and were informed that they were taking part in a study supposedly integrated in a major project - "*Inductive and Deductive cognitive processing in social science professionals*". After explanation of the study and procedure, participants were asked to sign the informed consent. Finally, they were placed in individual cubicles equipped with a computer to be used to answer the questionnaire (see OSM 1 for details about the procedure).

Categorization in Minimal Groups

Consistent with the minimal group paradigm procedure (Tajfel et al., 1971), we categorized participants in groups based on trivial or arbitrary meaningless criteria. Participants were informed that they were going to respond first to a (bogus) cognitive inventory, supposedly to determine their cognitive processing style (see OSM 1 for details). Participants were told that this (bogus) cognitive inventory accurately determined their thinking style (if they were deductive or inductive thinkers) and that thinking styles

1) Details about the procedure, such as participants recruitment, cover story, minimal groups' categorization procedure, and social status manipulation are available at the Online Supplementary Material (OSM) 1.

2) Although manipulation checks (MC) are a very common and widely used procedure in experimental designs, especially in the field of social psychology, we are aware of the debate about removing participants who failed the MC, being or not the best practice (e.g., Aronow et al., 2019; Hauser et al., 2018; Oppenheimer et al., 2009). However, we believe that in our study, MC was an essential procedure to ensure that participants had 1) believed in the minimal groups categorization as Deductive thinkers; 2) paid attention and assimilated their Thinking Style (i.e., Deductive thinkers and not Inductive thinkers); 3) carefully read and assimilated the information of the status manipulation that determined ingroup status (low- vs. high-status). These were determinant elements for our research and failing one of these elements would compromise the necessary conditions to test our predictions. Moreover, the questions used as MC are unlikely to affect the remaining measures, since they were simple statements to confirm that participants had read all of the information carefully and understood it (i.e., attention checks, allowing to identify those who were not paying much attention or misread the information or did not take the experiment seriously). Nevertheless, the results of our moderated mediation model with the full sample ($N = 150$) are available at OSM 2.

hardly change over time, inducing beliefs about impermeability of group boundaries. At the end of the task participants were able to see, on the computer screen, the (false) feedback about their thinking style: all participants were categorized as clearly being Deductive thinkers. Next, participants were presented with a brief description of the cognitive differences between the two thinking styles (based on Travaglino et al., 2014).

Social Status Manipulation

After categorization, participants received information about the relative status of Deductive Thinkers as compared to Inductive Thinkers, allegedly based on previous studies. Depending on the experimental condition, participants learned that Deductive Thinkers (ingroup) occupied a lower (vs. higher) status position compared to Inductive Thinkers (based on Federico et al., 2013; see OSM 1 for details).

Unstable Status Positions Induction

After social status manipulation and before the dependent measures, participants were informed that, although previous studies have established the lower (vs. higher) status of Deductive Thinkers in society, compared to Inductive Thinkers, some studies have failed to confirm the differences between the two thinking styles, questioning the stability and legitimacy of the previously established status positions (see OSM 1).

Debriefing and explanation of the aim of the research took place after data collection ended to prevent the experimental procedure from being revealed.

Control Measures

Before social status manipulation, participants responded to items assessing their identification with the Deductive Thinking style. Then, after social status manipulation and instability induction, we measured perception of Deductive Thinking style social status and the perceived stability and legitimacy of intergroup relations.

Group Identification

After the minimal groups procedure, participants answered six questions designed to assess their identification with their Thinking style (based on Abrams et al., 2013; 1 = *I fully disagree*; 7 = *I fully agree*): (1) "In general, I am happy when I think of myself as a Deductive Thinker"; (2) "In general, I identify with the Deductive Thinkers"; (3) "I do not feel good about being a Deductive Thinker" (reversed); (4) "In general, being a Deductive Thinker defines who I am"; (5) "In general, I am a typical Deductive Thinker"; (6) "I do not see myself as a Deductive Thinker" (reversed). The exploratory principal component factor analysis extracted a single factor that explains 58% of the variance. We averaged participants' responses to group identification score (Cronbach's $\alpha = .85$; $M = 4.28$, $SD = 0.98$).

Group Status Manipulation Check

To verify the effectiveness of Deductive Thinkers' social status manipulation, participants were asked to position themselves in two (Yes/No) statements: "Studies indicate that Deductive Thinkers... (1) perform better than Inductive Thinkers"; (2) tend to reach a lower status". Participants who fail the manipulation check were excluded.

Status Beliefs

Participants were also asked to compare their thinking style group with the other, regarding "position", "status", "prestige", "power and influence", and "performance" (based on Owuamalam et al., 2016, 2017; 1 = lower position; 7 = higher position). The exploratory factor analysis extracted a single factor that explains 78%, thus, we averaged these items to a status beliefs score (Cronbach's $\alpha = .93$, $M = 4.09$, $SD = 1.12$), such that higher scores represent beliefs in ingroup high status.

Perceived Stability of Status Positions

Following SIT's predictions (e.g., Tajfel, 1978) that perception of the stability of status positions between groups determine whether low-status group members accept or contest their group's position (i.e., the crucial determinant for social competition to emerge), participants' beliefs about the stability of status positions occupied by Deductive and Inductive thinkers were measured with two items (based on Owuamalam et al., 2016; 1 = *I fully disagree*; 7 = *I fully agree*): "I believe that the differences in status among Deductive and Inductive Thinkers... (1) will remain in the future"; (2) will change in the future" (reversed). We averaged the scores of the items to a stability index (Pearson product-moment correlations between items: $r = .75$, $p < .001$; $M = 3.77$, $SD = 1.28$), such that higher scores represented beliefs in stable status positions.

Perceived Legitimacy of Status Positions

SIT (Tajfel, 1978) also determines that low-status groups' members have to perceive their inferior position as illegitimate for social competition to emerge. Thus, participants' beliefs about the legitimacy of status positions were measured with two items (1 = *I fully disagree*; 7 = *I fully agree*): "I believe that the differences in status among Deductive and Inductive Thinkers... (1) are legitimate"; (2) are fair". We averaged the scores of the items to a legitimacy index (Pearson product-moment correlations between items: $r = .67$, $p < .001$; $M = 3.16$, $SD = 1.43$), such that higher scores represented beliefs in legitimate status positions.

Dependent Measures

Finally, participants answered two sets of questions: SDO and collective action tendencies scales.

SDO

Participants responded to the 16-item SDO₇ scale (Ho et al., 2015)³, on 7-point scales (1 = *I strongly oppose*; 7 = *I strongly favor*).

Both SDO-D (e.g., “An ideal society requires some groups to be on top and others to be on the bottom”; Cronbach’s $\alpha = .82$; $M = 2.90$, $SD = 1.06$) and SDO-E (e.g., “It is unjust to try to make groups equal”; Cronbach’s $\alpha = .82$; $M = 2.38$, $SD = 0.91$) dimensions were reliable.

Collective Action Tendencies

To assess participants’ motivation to engage in social competition strategies through collective action, we created, specifically for this study, a 5-item scale adapted to our specific minimal group scenario (based on van Zomeren et al., 2012; 1 = *I fully disagree*; 7 = *I fully agree*): “I would be willing to... (1) participate in discussion meetings to define strategies to increase the potential and promote the success of Deductive thinkers”; (2) engage in a protest to demand more precision and legitimacy in the attribution of status to the Thinking styles”; (3) sign a petition against any injustice or situation that would jeopardize Deductive Thinkers”; (4) participate in discussion meetings to define strategies to counteract any injustice or situation that would jeopardize Deductive Thinkers”; (5) engage in a protest against any injustice or situation that would jeopardize the Deductive Thinkers”. The exploratory principal component factor analysis extracted one single factor that explains 69% of the variance. We averaged the scores of the items to a collective action index (Cronbach’s $\alpha = .89$; $M = 4.10$, $SD = 1.29$).

Results

Preliminary Results

As expected, participants were equally identified with Deductive thinker in both the Low ($M = 4.29$, $SD = 0.91$) and the High Social status condition ($M = 4.27$, $SD = 1.04$), $t(111) = 0.10$, $p = .917$, Cohen’s $d = 0.02$. Moreover, participants evaluated group social status more positively in the High ($M = 4.65$, $SD = .76$) than in the Low Social status condition ($M = 3.37$, $SD = 1.09$), $t(113) = 7.35$, $p < .001$, Cohen’s $d = 1.39$, showing that social status manipulation was effective.

Although we induced unstable status positions in all participants, participants tended to evaluate status positions as more stable in the High ($M = 3.96$, $SD = 1.15$) than in the Low Social status condition ($M = 3.52$, $SD = 1.40$), $t(111) = 1.84$, $p = .069$, Cohen’s $d = 0.35$; and evaluated status positions as more legitimate in the High ($M = 3.40$, $SD = 1.35$) than

3) The scale was translated from English to Portuguese, by one of the researchers and by an experienced translator. The two translations were compared, and some adjustments were made by a third experienced researcher.

in the Low Social status ($M = 2.86$, $SD = 1.48$) condition, $t(111) = 2.01$, $p = .047$, Cohen's $d = 0.38$.

We found no differences on SDO-D or SDO-E scores between the Low Social status condition ($M = 2.77$, $SD = 1.12$; $M = 2.37$, $SD = 0.95$, respectively) and the High ($M = 3.00$, $SD = 1.01$, $M = 2.38$, $SD = 0.88$, respectively), $t(111) = 1.17$, $p = .244$ and $t(111) = 0.06$, $p = .950$, respectively.

Finally, results show that participants in the Low Status condition showed higher motivation to get involved in collective action ($M = 4.52$, $SD = 1.26$) than in the High Status condition ($M = 3.77$, $SD = 1.23$), $t(111) = 3.21$, $p = .002$, Cohen's $d = 0.61$.

SDO as an Ingroup Status-Enhancement Strategy

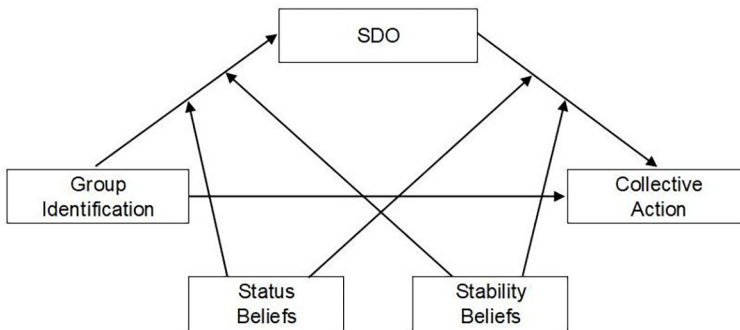
We expected that, under competitive settings, group identification should increase SDO among members of low-status groups, as an ingroup status-enhancement strategy, and, in turn, SDO should increase motivation to engage in collective action. We should observe a similar process among members of high-status groups, as a strategy to defend ingroup superiority. However, these should only be observed to the extent that participants believe that status differentials are unstable (i.e., necessary condition for social competition to emerge). In other words, the mediating effect of SDO in the relation between group identification and collective action should depend on beliefs about the stability of status positions.

Thus, to test the effect of group identification on collective action through SDO (mediation model), and how this mediation pathway depends on status beliefs and stability beliefs (conditional process), we conducted a moderated mediation analysis (using PROCESS 3.3 version, Model 75 with 1,000 bootstrap samples; Hayes, 2018)⁴, considering group identification as the predictor, SDO as the mediator, status beliefs and stability beliefs as the moderators, and collective action as the dependent measure (see Figure 1). Table 1 and Table 2 summarize the results of the moderated mediation analysis.

4) For indirect effects, 90% bias-corrected bootstrapping confidence intervals were calculated using 1,000 repetitions. This method was selected because of Preacher et al. (2010) who argued that 90% confidence intervals correspond to one-tailed, .05 hypothesis tests, which is often justified in mediation research. All coefficients reported are unstandardized - PROCESS only provides standardized coefficients in mediation-only models.

Figure 1

Moderated Mediation Model (Model 75 With 1,000 Bootstrap Samples; N = 113)



Predicting SDO

The first stage of the moderated mediation model corresponds to the analysis of the moderating effect of status beliefs and stability beliefs on the association between group identification and SDO (see Figure 1).

As expected, Tables 1 and 2 show that, at low levels of status beliefs (i.e., one standard deviation below the mean), group identification is positively and significantly related to SDO-D and SDO-E only at low levels of stability beliefs (i.e., one standard deviation below the mean; implying unstable status position). Meanwhile, at high levels of stability beliefs (i.e., one standard deviation above the mean; implying stable status positions), the effect of group identification on SDO-D and SDO-E is not significant. At high levels of status beliefs (i.e., one standard deviation above the mean), group identification is not significantly related to SDO-D; and positively and significantly related to SDO-E, at low levels of stability beliefs, whereas, at high levels of stability beliefs, the effect of group identification on SDO-D and SDO-E is not significant (see Table 1 and Table 2).

Taken together, results showed that both SDO-D and SDO-E are predicted by group identification and stability beliefs (albeit significant only when participants' beliefs about their ingroup status is relatively low). Specifically, when participants perceive status positions to be unstable, group identification is positively associated with SDO-D and SDO-E. This relationship tends to reverse when status positions are perceived to be stable (see Table 1 and Table 2). Thus, beliefs about the existing social structure seems crucial to predict the association between ingroup identification and SDO.

SDO on Collective Action

The second stage of the model analysis allows us to observe whether the effect of SDO on collective action is moderated by status and stability beliefs (see Figure 1).

Again, results from Table 1 and Table 2 show that status beliefs negatively predict collective action: the more participants believe that the ingroup has a high status, the lower their motivation to engage in collective action on behalf of the ingroup. Additionally, results showed that SDO (but only the SDO-E dimension) interact with stability beliefs to predict collective action tendencies. Specifically, when participants perceived status relations to be unstable (i.e., low stability beliefs), SDO-E becomes positively associated with collective action (see Table 2). This relationship tends to reverse when status relations are perceived to be stable. Thus, beliefs about the existing social structure seems to be crucial to understand the relation between SDO and collective action.

Mediating Effect of SDO-D

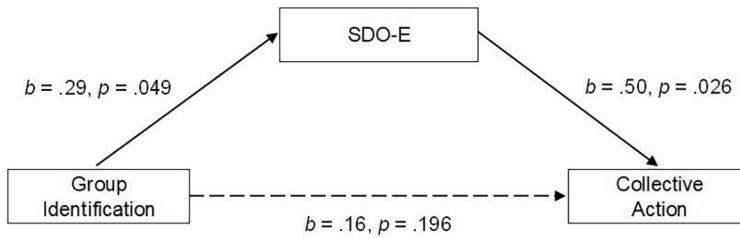
We expected that, under unstable status positions, SDO should positively mediate the relationship between group identification and collective action for low-status group members. For the SDO-D dimension (see Table 1), when status positions were perceived to be unstable (i.e., low stability beliefs), the conditional indirect effect of group identification on collective action through SDO-D was non-significant, both when the participants believed that social status was low, $b = .00$, $SE = .07$, 90% CI [-0.103, 0.142], and high, $b = .01$, $SE = .08$, 90% CI [-0.153, 0.114]. When status positions were perceived to be stable (i.e., high stability beliefs), the conditional indirect effect of group identification on collective action through SDO-D was also non-significant, both when the participants believed that social status was low, $b = .03$, $SE = .06$, 90% CI [-0.047, 0.143], and high, $b = .03$, $SE = .05$, 90% CI [-0.072, 0.098]. The direct effect of group identification on collective action was marginally significant, $b = .22$, $SE = .13$, $t = 1.75$, $p = .083$.

Mediating Effect of SDO-E

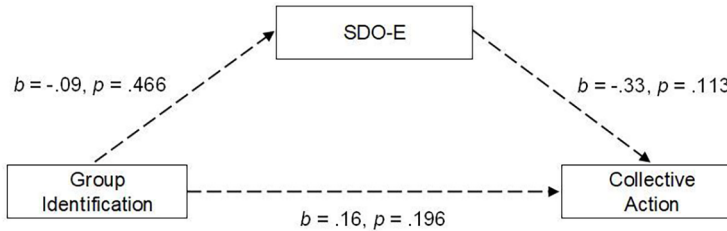
Regarding the SDO-E dimension (see Table 2), when status positions were perceived to be unstable (i.e., low stability beliefs), the conditional indirect effect of group identification on collective action through SDO-E was positive and significant, only when participants believed that ingroup status was low, $b = .15$, $SE = .10$, 90% CI [0.005, 0.317], (see Figure 2); and non-significant when ingroup status was perceived to be high, $b = .15$, $SE = .12$, 90% CI [-0.008, 0.373]. When status positions were perceived to be stable (i.e., high stability beliefs), the conditional indirect effect of group identification on collective action through SDO-E was non-significant, both when the participants believed ingroup status was low, $b = .03$, $SE = .08$, 90% CI [-0.065, 0.157], (see Figure 3) or high, $b = .03$, $SE = .06$, 90% CI [-0.051, 0.132]. The direct effect of group identification on collective action was non-significant, $b = .16$, $SE = .12$, $t = 1.30$, $p = .196$.

Figure 2

Conditional Indirect Effect of Group Identification on Collective Action Through SDO-E When Status Positions Are Perceived to be Unstable, Among Participants Who Believed Ingroup Status Was Low

**Figure 3**

Conditional Indirect Effect of Group Identification on Collective Action Through SDO-E When Status Positions Are Perceived to be Stable, Among Participants Who Believed Ingroup Status Was Low



SDO-E mediates the relationship between group identification and collective action, when status positions between groups are believed to be unstable. In a situation where status positions are susceptible to changed, the more low-status group members identify with their group, the more they reinforce their support for group-based hierarchies and inequality (SDO-E) and, in turn, boost their motivation to engage in collective actions. Thus, unlike SDO-D, SDO-E did emerge as a mediator of the relation between group identification and collective action.

Table 1

Moderated Mediation Model of Group Identification, SDO-D, Status Beliefs, and Stability Beliefs Predicting Collective Action (Model 75 of PROCESS macro; N = 113)

Predictor variables	Explained variables				
	SDO-D		Collective action		
	Coeff.	SE	Coeff.	SE	
Constant	-.00	.10	4.10***	.12	
Group identification	.08	.11	.22 [†]	.13	
Status beliefs	.21*	.09	-.17	.11	
Stability beliefs	.04	.08	-.13	.10	
Group identification X status beliefs	-.01	.07			
Group identification X stability beliefs	-.16*	.07			
SDO-D			-.10	.12	
SDO-D X status beliefs			.02	.11	
SDO-D X stability beliefs			-.10	.09	
R ²	.09		.09		
F(df)	F(5, 107) = 2.11 [†]		F(6, 106) = 1.81		
Conditional effects of group identification on SDO-D at different values of the moderators					
Status beliefs	Stability beliefs	Effect	SE	t	p
Low (-1SD)	Low (-1SD)	.29	.17	1.67	.099
	High (+1SD)	-.11	.15	0.73	.467
High (+1SD)	Low (-1SD)	.26	.19	1.39	.169
	High (+1SD)	-.14	.12	1.13	.262
Conditional effects of SDO-D on collective action at different values of the moderators					
Status beliefs	Stability beliefs	Effect	SE	t	p
Low (-1SD)	Low (-1SD)	.01	.18	0.05	.960
	High (+1SD)	-.24	.24	0.99	.322
High (+1SD)	Low (-1SD)	.04	.21	0.22	.829
	High (+1SD)	-.21	.19	1.08	.283
Conditional indirect effects of group identification on collective action via SDO-D at different values of the moderators					
Status beliefs	Stability beliefs	Effect	SE	90% CI	
Low (-1SD)	Low (-1SD)	.00	.07	LL	UL
	High (+1SD)	.03	.06	-0.103	0.142
High (+1SD)	Low (-1SD)	.01	.08	-0.047	0.143
	High (+1SD)	.03	.05	-0.153	0.114
				-0.072	0.098

Note. CI = confidence interval; LL = lower limit; UL = upper limit.

[†]p ≤ .10. *p < .05. **p < .01. ***p < .001.

Table 2

Moderated Mediation Model of Group Identification, SDO-E, Status Beliefs, and Stability Beliefs Predicting Collective Action (Model 75 of PROCESS macro; N = 113)

Predictor variables	Explained variables				
	SDO-E		Collective action		
	Coeff.	SE	Coeff.	SE	
Constant	-.00	.08	4.14***	.12	
Group identification	.09	.09	.16	.12	
Status beliefs	.12	.08	-.26*	.11	
Stability beliefs	.09	.07	-.09	.09	
Group identification X status beliefs	-.01	.06			
Group identification X stability beliefs	-.15**	.06			
SDO-E			.10	.13	
SDO-E X status beliefs			.01	.11	
SDO-E X stability beliefs			-.32**	.10	
R ²	.09		.16		
F(df)	F(5, 107) = 2.15 [†]		F(6, 106) = 3.45**		
Conditional effects of group identification on SDO-E at different values of the moderators					
Status beliefs	Stability beliefs	Effect	SE	t	p
Low (-1SD)	Low (-1SD)	.29	.15	1.98	.050
	High (+1SD)	-.09	.13	0.73	.466
High (+1SD)	Low (-1SD)	.28	.16	1.71	.091
	High (+1SD)	-.11	.10	1.08	.281
Conditional effects of SDO-E on collective action at different values of the moderators					
Status Beliefs	Stability Beliefs	Effect	SE	t	p
Low (-1SD)	Low (-1SD)	.50	.22	2.26	.026
	High (+1SD)	-.33	.21	1.60	.113
High (+1SD)	Low (-1SD)	.53	.25	2.14	.034
	High (+1SD)	-.29	.19	1.52	.132
Conditional indirect effects of group identification on collective action via SDO-E at different values of the moderators					
Status beliefs	Stability beliefs	Effect	SE	90% CI	
Low (-1SD)	Low (-1SD)	.15	.10	0.005	0.317
	High (+1SD)	.03	.08	-0.065	0.157
High (+1SD)	Low (-1SD)	.15	.12	-0.008	0.373
	High (+1SD)	.03	.06	-0.051	0.132

Note. CI = confidence interval; LL = lower limit; UL = upper limit.

[†]p ≤ .10. *p < .05. **p < .01. ***p < .001.

Discussion and Conclusions

The present results show that when status distinctions between groups are perceived to be unstable (i.e., susceptible to change), members of low-status groups are motivated to support hierarchy-enhancing ideologies, such as SDO, that allow group status differentials, where one group has more power and prestige than the others. Indeed, commitment to one's low status ingroup increased participants' SDO endorsements among those with a sense of their lower status but not amongst those with an elevated sense of their group's standing. In particular, our results suggest that this tendency may have come about due to the desire to achieve a more advantaged future position in the status hierarchy, as reflected in the positive association between SDO and collective action (i.e., social competition strategy).

We also found this pattern among those who believed Deductive Thinkers had a higher status. For low-status group members, unstable intergroup relations represent an opportunity to challenge the existing status hierarchy and enhance their disadvantaged position within it, which led them to endorse hierarchy-enhancing beliefs and support status differentials (i.e., SDO) to guarantee and legitimate future status-enhancement. For high-status group members, unstable intergroup relations represent a threat to their superior position. Indeed, to compensate for such threatening context and as an attempt to protect their superior position, those who believed that they held a higher status position endorse more legitimacy to status positions, and tended to evaluate status position as more stable, than participants in the low-status condition. Conversely, when status positions were perceived to be stable, the relationship between group identification and SDO was negative but nonsignificant. In this case, low-status group members perceive that their low status is unlikely to change, that it is not possible to compete with the relevant high-status group. For high-status group members, stable intergroup relations legitimate and guarantee the maintenance of their superior position. Thus, their superior position is not threatened, and, in turn, they will not feel the need to reinforce their support for group-based hierarchies and inequality (SDO).

As we anticipated, we only found the mediating effect of SDO-E, not with SDO-D. As mentioned above, whereas SDO-D represents support for intergroup hostility and aggression, or support for forceful oppression and active domination of high-status groups, the SDO-E dimension reflects the opposition to group-based equality, aversion to reducing the level of hierarchy between social groups, and support for differential intergroup access to power and resources (i.e., status differentials) (Ho et al., 2012, 2015). Thus, as mentioned above, support for status differentials between groups and for the maintenance of hierarchically structured intergroup relations - linked to the desire of low-status group members to enhance their disadvantaged position within the existing status hierarchy, in the future (i.e., SDO as an ingroup status-enhancement strategy) - seems more consistent with SDO-E than with SDO-D.

Limitations and Directions for Future Research

In spite of the potential contribution of our results on SDO and collective action research, there are potential limitations that should be addressed in future research.

We based our research on the minimal group paradigm (e.g., Tajfel et al., 1971), that is, on artificially created groups in the laboratory, and thus, this procedure may be the target of some criticism questioning the external and ecological validity of our results. However, the minimal group paradigm has been widely used and is one of the most distinguished paradigms in intergroup relations research, which has already proven to be highly effective (Otten, 2016). As Tajfel and Turner (1979, p. 38) noted, “the mere perception of belonging to two distinct groups – that is, social categorization per se – is sufficient to trigger intergroup discrimination favoring the ingroup”, which encourages ingroup favoritism and intergroup competitive responses.

Therefore, categorizing participants as Deductive Thinkers (as opposed to the other relevant group, Inductive Thinkers) and emphasizing the difference between those groups, should be sufficient for the emergence of a sense of group membership, to trigger ingroup identification and the tendency to favor the ingroup.

Moreover, and important to our research, results relating to system justifying processes (that may lead to the endorsement of system-justifying or hierarchy-enhancing ideologies, such as SDO) tend to be similar both when artificial groups (e.g., Owuamalam et al., 2016) and when real groups (e.g., Owuamalam et al., 2021) are used. Thus, if we found and confirmed our predicted effects with minimal groups, we should find stronger effects with natural or real-life groups under competition or conflict contexts. Nevertheless, future research should consider natural groups, under real-life competition-based or conflict-based settings, such as sports competition, university rankings, or political election time, or even in the context of separatist movements.

Another limitation relates to the fact that this study does not allow the palliative function of SDO to be analyzed and tested, or to compare it with the proposed ingroup status-enhancement strategy. Indeed, based on what we already know from previous research, our study only focused on the conditions that favour individuals' motivation to engage in social competition. Accordingly, we observed that the proposed ingroup status-enhancement strategy only occurred under unstable status positions (i.e., susceptible to change), not being observed when status positions were perceived as stable. Nevertheless, future studies should address this limitation, and test the palliative function vs. ingroup status-enhancement strategy, under different conditions.

Theoretical Implications

We believe that our work has relevant implications for both SDT and collective action literature. Previous research has considered and operationalized SDO as a relatively stable individual general orientation toward intergroup inequality (e.g., Sidanius et al., 1994).

However, as [Lehmiller and Schmitt \(2007, p. 719\)](#) noted “it is hard to imagine any general psychological orientation toward an abstract concept like ‘group equality’ that would have a meaning independent of specific social contexts and identities”. Indeed, our work demonstrates that SDO may be a function of situational and contextual factors (e.g., contingent on group identities and features of the social structure), and may sometimes be enacted to justify the legitimacy of future ingroup advancements—within the prevailing hierarchical system—following collective action. Thus, our research adds to recent efforts by [Owuamalam et al. \(2018, 2019a, 2019b, 2020\)](#) to understand why and when members from low-status groups support hierarchical systems that seem to disadvantage them, by showing that such support is actually group-interested, rather than being motivated by an autonomous system motive ([Jost, 2019](#)). That is, members of low-status groups may be motivated to support and preserve the existing hierarchical system, when they believe there is sufficient malleability in the system to permit their ingroup to achieve a high status through such system in the future (i.e., [Owuamalam et al., 2018](#)).

Moreover, our work also provides evidence that SDO, as a context-specific response, may have different meanings and motivations for low-status group members (palliative function or ingroup status-enhancement strategy), depending on the characteristics of the social structure, and may be reinforced or attenuated according to ingroup’s interests. Indeed, under specific contexts (e.g., social competition), SDO endorsement may represent an ideological strategy for low-status group members, to favor the ingroup over the outgroup (i.e., ingroup status-enhancement strategy).

Finally, our work adds more evidence to emphasize the importance of including ideological processes in collective action models (see [Choma et al., 2020](#); [Jost et al., 2017](#); [Mikołajczak & Becker, 2019](#); [Stewart & Tran, 2018](#)). Predominantly, research on collective action has focused on the motivations underlying collective action tendencies towards social change, among disadvantaged or low-status groups, aimed at promoting liberal values and equality between groups (e.g., civil rights movements). However, collective action has a much broader scope. Indeed, not all collective actions are designed to promote intergroup equality, and to reduce status differences between groups, as we can observe in many real-life examples (e.g., Unite the Right rally; White Power social movement; radical right-wing populist movements).

For instance, to address this issue, [Becker \(2020\)](#) distinguishes between progressive social change (i.e., actions aimed at promoting intergroup equality and reducing status differentials between groups) and reactionary social change (i.e., actions aimed at fostering social inequality and hierarchical intergroup relations; at maintaining or increasing status differentials between groups). The latter explains such cases as radical right-wing populist movements aiming to change (reverse) degrees of equality in society already achieved and bring back policies or political affairs that have already been overcome ([Becker, 2020](#)). Thus, it is stressed that ideological antecedents may help to understand

and identify the different social change intentions underlying collective action (Becker, 2020).

Jost et al. (2017) also addressed the importance of including ideological processes in collective action research. Specifically, they differentiate between system-supporting (i.e., actions aiming at maintaining the existing hierarchical social system and the *status quo*) and system-challenging (i.e., actions aiming at changing established systems of inequality) collective actions (Jost et al., 2017). However, according to their model, those strongly identified with disadvantaged groups are more likely to engage in system-challenge collective actions, and those strongly identified with advantaged groups are more likely to engage in system-supporting collective action.

Therefore, our work offers a new perspective on the ideological processes and motivations underlying collective action tendencies, among low-status groups. Members of disadvantaged groups may engage in system-supporting attitudes and behaviors, not to maintain the *status quo* or as a rationalization of their disadvantaged situation, but on behalf of the ingroup's interests and goals.

Concluding Remarks

Our work is the first attempt, as far as we know, to test SDO as an ingroup status-enhancement strategy among members of low-status groups. Indeed, in line with the hope for future ingroup high-status explanation to support hierarchical systems (e.g., Owuamalam et al., 2018), we provide the first evidence that, SDO, as a system-justifying or hierarchy-enhancing ideology, may be a conduit for future status achievement among low-status groups' members, in contexts of social competition.

In sum, when social competition is favoured, low-status group members may intend to “establish and maintain hierarchically structured intergroup relations” not only because it serves a palliative function for them (e.g., Jost & Hunyady, 2005), but also because they believe it is possible for their group to achieve a higher status in the existing status hierarchy. However, advances in the status hierarchy and improved ingroup status will only be possible if the hierarchical system remains (i.e., maintenance of groups status differentials where one group has more power and prestige than the others) but with an unstable character. In this case, SDO endorsement will function to justify the legitimacy of future ingroup advancements—within the prevailing hierarchical system—following collective action.

Funding: This research was funded by an individual doctoral grant awarded to the first author from the Fundação para a Ciência e a Tecnologia, Portugal (FCT), PD/BD/128211/2016.

Acknowledgments: The authors would like to thank João Ribeiro for his assistance in the data collection. We would also like to thank the two Reviewers for their invaluable and highly constructive comments and suggestions, which greatly improve the final version of this paper.

Competing Interests: The authors have declared that no competing interests exist.

Data Availability: The data and materials described in this article are openly available in the Open Science Framework (OSF) at <https://osf.io/hds3p/>.

Supplementary Materials

The Supplementary Materials contain the datasets from this study as well as the details about the procedure, such as participants recruitment, cover story, minimal groups' categorization procedure, and social status manipulation (OSM 1), and the results of our moderated mediation model with the full sample (N = 150) which includes participants who failed the manipulation check (OSM 2) (for access see [Index of Supplementary Materials](#) below).

Index of Supplementary Materials

Carvalho, C. L., Pinto, I. R., Costa-Lopes, R., Paéz, D., & Marques, J. M. (2021). *Supplementary materials to "Support for group-based inequality among members of low-status groups as an ingroup status-enhancement strategy"* [Research data and materials]. OSF. <https://osf.io/hds3p/>

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