

## Original Research Reports

# Liking Low-Status? Contextual and Individual Differences in Attributional Biases of Low-Status Outgroup Members

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## Abstract

Previous studies on biased intergroup perceptions of outgroups' irrationality mostly treated the target groups as opponents and rivals. In three studies, we extended this line of research and tested the hypothesis that individuals who challenge the existing social hierarchy exhibit more positive biases toward low-status outgroup members. We also hypothesized that when irrational thinking is framed as an important human trait, this bias is reduced among low social dominance orientation (SDO) individuals. In three studies (N = 169, N = 450, and N = 161), conducted in countries that vary in power distance levels (Poland, Spain, Sweden and Turkey), we examined under which conditions low-status outgroups are perceived as more rational than ingroup members. The results show that in a condition without irrationality framed as a human trait, psychology students (Study 1 and Study 2) and nonstudents low in group-based dominance orientation (Study 3) perceive outgroup members as less irrational than ingroup members. However, when participants were reminded that irrationality is a human trait, the perceived differences between in- and outgroup members were reduced. This effect was observed in all four countries (Study 1 and Study 2) and held when variables related to the tendency to behave in a socially desirable way were controlled for (Study 3).

**Keywords:** social perception, hierarchy, irrationality, groups, intergroup relations

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Social groups are considered to have an important motivational and self-enhancing influence. According to Pettigrew (1979), biases that serve one's own group tend to distort people's perceptions of social life. Kenworthy and Miller (2002) showed that in comparison to the ingroup, more externality and less rationality are attributed to the attitude origins of the outgroup. In general, people tend to attribute negative reasons to opponents' attitudes and positive reasons to ingroup attitudes (Bäck, 2013; Bäck & Lindholm, 2014; Kennedy & Pronin, 2008). Such attributions of irrationality can be easily observed on social networking sites: During online chats and discussions,

opponents often face harsh adjectives, commonly related to their mental health and lack of rationality (see e.g. Lewinski, 2009).

This tendency to see members of one's social group more favorably has been found in numerous studies (Bäck, 2013; Bäck & Lindholm, 2014; Brewer, 1979; Hewstone, Rubin, & Willis, 2002; Kennedy & Pronin, 2008; Tajfel & Turner, 1979). Strong group identification and perception of the group as central to the self-concept relate to ingroup favoritism and outgroup discrimination. Social identity theory and self-categorization theory emphasize that people who strongly identify with a group display stronger ingroup bias (Hewstone et al., 2002). However, not only does one's membership affect one's social perception of outgroup members, but also individual differences regulate how one sees others. For example, people who score high in social dominance orientation (SDO) are more willing to derogate members of low-social status groups (Pratto, Sidanius, & Levin, 2006; Pratto, Sidanius, Stallworth, & Malle, 1994).

Most research to date concentrated on examining pro-ingroup biases. For example, social identity theory describes how motivational factors (i.e., desire for high self-esteem) influence the perception of the social groups an individual identifies with (Tajfel & Turner, 1979). Other theories, for example, integrated threat theory, concentrate on predictors of prejudice (i.e., symbolic and realistic threat) and negative attitudes toward outgroups (Stephan & Stephan, 2000). This paper explores the understudied topic of positive outgroup biases, more specifically, bias toward low-status outgroups.

To date, research testing the universality of biases in the perceptions of out- and ingroup members has often focused on samples from one culture. The present studies contribute to research on positive outgroup biases by presenting data collected in four distinct cultures, that differ by their power distance.

Power distance, empirically identified by Hofstede (2001), is a cultural dimension related to the acceptance of inequalities. This dimension refers to the extent to which inequality among individuals in different positions of power is viewed as an accepted and desired aspect of social order. Cultures scoring high on this dimension are those in which the norms legitimize differences in power and accept inequalities, whereas cultures scoring low are those in which norms reduce group inequalities among people (Brockner et al., 2001). Nevertheless, researchers have shown that social hierarchies are ubiquitous (Fischer, Hanke, & Sibley, 2012) although acceptance of group-based anti-egalitarianism is related to situational, contextual, and cultural factors (Sidanius, Levin, Liu, & Pratto, 2000). Recent studies confirmed a general predictive power of SDO, which reflects a generalized orientation toward hierarchy-enhancing attitudes and ideologies across cultural contexts (Kteily, Ho, & Sidanius, 2012; Kteily, Sidanius, & Levin, 2011; Sibley & Liu, 2010).

## Predictors of Outgroup Biases Challenging the Status Quo

In the present studies, we concentrated on the perception of the rationality of ingroups and outgroups and are embedded within two lines of research. The first line is related to perceptions of social hierarchy. Numerous studies have focused on the importance of hierarchy-enhancing and -attenuating legitimizing myths and their relationships with general attitudes toward social systems (Pratto et al., 2006; Pratto et al., 1994; Strube & Rahimi, 2006). Hierarchy-enhancing beliefs are related to worldviews that highlight the importance of social hierarchies and strengthen the uneven distribution of power in a given community or nation (i.e., by considering one of the groups as more deserving of higher status or more power in a community). Hierarchy-attenuating orientation is linked to equality values and challenges the beliefs that a social hierarchy is desirable and justified.

Research related to the social dominance orientation showed that individuals with low SDO tend to exhibit less negative stereotypes toward disadvantaged groups and generally challenge hierarchical views on social relations. Individuals with high SDO are more likely to differentiate groups in terms of their ability, intelligence, incompetence, and stupidity (Sidanius, Pratto, & Mitchell, 1994). This effect is especially pronounced when the ingroup has higher status than the outgroup (Jost & Thompson, 2000).

SDO manifested by an individual's preference for a group-based hierarchy (the Group-Based Dominance subscale) and inequality (the Opposition to Equality subscale; Jost & Thompson, 2000; Pratto et al., 2006) stands in opposition to the values of universalism and openness to egalitarianism (Duckitt & Sibley, 2010). Individuals with low SDO are also less likely to express prejudice toward disadvantaged groups and support ideologies (or legitimizing myths) that maintain social inequality (Fischer, Hanke, & Sibley, 2012), and are less likely to accept violent changes within democratic systems (Besta, Szulc, & Jaśkiewicz, 2015).

The second line of research on which we base this investigation is related to an individual's position toward the status quo. For instance, challengers of the status quo tend to ascribe more irrationality to their opponents, compared to individuals who support the status quo (Bäck & Lindholm, 2014). That is, focusing on challenging currently dominant beliefs and norms elicits the devaluation of rival outgroups' attitudes by ascribing less rationality to those outgroups (Bäck, 2013). Moreover, this effect is independent of ideology (Bäck, 2013; Bäck & Lindholm, 2014).

Previous studies on biased intergroup perceptions of outgroups' irrationality mostly treated the target groups as opponents and rivals (Bäck & Lindholm, 2014). We extend this line of research and examine whether students of hierarchy-attenuating professions, which usually are more likely to challenge existing hierarchies, ascribe less irrationality to low-status outgroups. Considering positive attitudes toward marginalized groups and low-status individuals among hierarchy-attenuating people, we propose that individuals who challenge the existing social hierarchy could exhibit positive biases toward low-status outgroup members. That is, the goal of these studies is to verify whether low-status outgroups are perceived as more rational than ingroup members by individuals from groups that question and challenge existing social hierarchies (e.g., of hierarchy-attenuating likely majors such as social sciences students).

Thus, we predict that the automatic response of low SDO individuals is to reduce inequalities and social hierarchies, regardless of the cultural context that accepts or does not accept unequal distributions of power between individuals. Challenging social hierarchies can be manifested in the social perception by attributing less negative traits (i.e., irrational thinking) to outgroup members, such as minority groups or more generally, low social status groups (compared to ingroup members as the high-status majority group).

Of course, important contextual factors might affect this process, such as how core human characteristics are framed. Low SDO individuals are not motivated to dehumanize low-status outgroup members. As in the present studies we focused on the perception of ingroup vs. outgroup irrationality, we assumed that how irrationality is framed might change the perception of low-status outgroup irrationality. For example, when irrational thinking is framed in a positive way, that is, as a human characteristic, this pro-low-status outgroup bias either disappears or at least is reduced among low SDO individuals. We argue that in the context of emphasizing that it is natural for humans to be irrational and exhibit cognitive biases, hierarchy-attenuating low SDO individuals do not attribute more rationality to the low-status outgroup as these individuals would see it as dehumanizing or hierarchy-enhancing. In this context, attributing rationality would mean dehumanizing a person (seeing him or her as not truly human,

because humans are not fully rational). Thus, when irrationality is presented as a core trait of being a truly human, the differences between the perceptions of the out- and ingroups will be lower among low SDO individuals.

## Overview of the Three Studies

In three studies, we explored whether irrationality of behavior is attributed to a member of the ingroup or to a low-status outgroup. The first hypothesis (H1) is that low SDO individuals attribute more irrationality to an ingroup member than to an outgroup member, when the outgroup member belongs to a low-status group.

Studies have shown how the evaluation of outgroups is affected by student participants' study major (for discussion see e.g., [Dambrun, Kamiejski, Haddadi, & Duarte, 2009](#)). As examples of low SDO individuals, we selected samples of psychology students. Psychology students compared to other students have been shown to be statistically significantly lower in SDO and thus, are considered a hierarchy-attenuating group (compared, e.g., to biology and law students; see [Dambrun, Guimond, & Duarte, 2002](#); [Dambrun et al., 2009](#); [Guimond, 2000](#)). In addition, psychology students may have characteristics distinguishing them from students in other study areas and even show pro-outgroup biases, in contrast to students of hierarchy-enhancing power professions (e.g., biology, medical science, commerce, engineering, and law), whose views of outgroup members tend to be negative ([Dambrun et al., 2009](#); [Prescott & Logan, 2018](#); [Rubinstein, 2003](#); [Sidanius & Pratto, 2001](#); [Sidanius, Pratto, Martin, & Stallworth, 1991](#)). For instance, compared to other study areas (including engineering, business, and health professions), psychology students score higher in humanism ([Cummings, 2008](#)) and lower in racism ([Sidanius et al., 1991](#)). Moreover, psychology students are less likely to have authoritarian personalities ([Weller & Nadler, 1975](#)). Similarly, [Rubinstein \(2003\)](#) showed that individuals with authoritarian personalities are less likely to choose social sciences. In addition, SDO correlates positively with conservative beliefs ([Pratto et al., 1994](#)), and in the academic field of psychological science in the USA, registered Democrats (liberal views) outnumber Republicans (conservative views) by ratio of 16.8:1.0 ([Langbert, 2018](#)). Therefore, it can be suggested that research conducted among psychology students can be influenced by their humanist, less authoritarian, and less hierarchy-enhancing attitudes compared to attitudes that are more common in other, more hierarchy-enhancing academic areas.

However, attributing rationality could be a way of dehumanizing individuals by viewing them as cold and weirdly unemotional (e.g., by representing them as objects or automata; [Haslam, 2006](#)). To examine how core human characteristics are framed, we include a control condition: In Studies 1 and 2, we control for a possible dehumanization effect by adding a condition in which irrationality is framed as a natural, common human characteristic. As the context of the participants' responses should matter, if outgroup dehumanization is responsible for the pro-out-group effect, we assume that the attribution of irrationality is even stronger when the relation between being human and irrational is emphasized.

Overall, we assumed that a pro-low-status outgroup bias is not a result of dehumanization of outgroup members. We assumed Hypothesis 2 (H2), that when irrational thinking is framed as an important human trait, this bias is reduced among low SDO individuals. In other words, we assumed a statistically significant main effect of group membership when no framing of irrationality is present, and a statistically significant interaction effect between the group status and framing, with outgroup members perceived as less irrational by psychology students. We assumed no group differences are observed when irrationality is framed as a human trait.

To strengthen the generalization of the results, we used samples from four cultures that differ in power distance ([Hofstede, 2001](#)): West Asia or southeast Europe (Turkey; Study 1) northwest and southwest Europe (Sweden

and Spain), and central Europe (Poland; Study 2). Thus, we assumed Hypothesis 3 (H3) that the effects assumed in H1 and H2 are visible across all four countries, regardless of their levels of power distance.

Comparing the four countries of study, the country with the highest egalitarian approach is Sweden (31st on the power distance index [PDI]), followed by Spain (57th on the PDI), Turkey (66th on the PDI), and Poland (68th on the PDI) (see Hofstede, 2001). Thus, it is possible that students in Poland, Turkey, and Spain might manifest more acceptance of the inequality of power than those in Sweden.

For the studies conducted in all four countries, we followed the design in which an ingroup member was always an individual from the participant's own country, and an outgroup member was always a migrant living in the participant's country but came from another country considered to be of lower status compared to the majority, high-status ingroup. (The exception is the Turkish sample in Study 1. We chose to describe an outgroup member as a person declared to be of Kurdish origin, an ethnic minority in Turkey; nevertheless, this group still meets two of the criteria as a low-status, minority outgroup.) As the outgroup was always a migrant or minority group in the studies, we analyzed only the results for the participants who declared they were nationals of the country where the study was conducted, irrespective of their origin and ethnic background. Responses from participants of other nationalities were excluded (e.g., we presented a Kurdish woman as an outgroup member in Study 1 conducted in Turkey, and thus, excluded all responses from Kurdish participants).

To rule out certain possible alternative explanations, we controlled for social desirability and the desire for high self-esteem. In Study 3, we tested whether the tendency to give socially desirable answers and the desire to heighten one's self-esteem were related to the attribution of irrationality to the target persons.

All studies received ethical approval from the Ethics Board of the Middle East Technical University, Ankara (Turkey) or Institute of Psychology University of Gdansk (Poland). In line with accepted procedures, all participants were informed about the general goals of the study, and we obtained the participants' freely given informed consent before they proceeded with the questionnaires. All participants completed an anonymous questionnaire in Turkish (Study 1), Spanish (Study 2), Swedish (Study 2), or Polish (Study 2 and 3). In Studies 1 and 2, convenient samples of psychology students participated in the research; in Study 3, an additional nonpsychology student sample of Polish adults was recruited, to explore whether low SDO individuals exhibit proposed biases. Participants in all studies were free to withdraw from the study at any time.

## Study 1

Study 1 was conducted to verify whether participants perceived ingroup members as more irrational than low-status outgroup members, especially when no information about the human nature of irrationality was provided. The between-subjects design was a factorial 2 (target individual: ingroup member vs. outgroup member)  $\times$  2 (no framing vs. framing irrationally as a human trait).

Study 1 was conducted in Turkey. The ingroup member was a Turkish woman, whereas the outgroup member was of Kurdish origin. We hypothesized that the presence of irrationality as an important human trait context (the interpretive frame) would moderate the perception of others as more or less irrational beings (attributions of irrational thinking to the in- and outgroup members). That is, we expected an interaction between group membership and framing of irrationality, such that participants would attribute more irrationality to the ingroup member than to the

outgroup member when no information about the nature of irrationality was provided. In contrast, when irrationality is presented as a human characteristic, the attribution of irrationality to in- and outgroup members should be similar.

## Method

### Participants

A total of 169 psychology undergraduate students participated in this study. Sixty-five were men, and 104 were women ( $M_{\text{age}} = 21.17$ ;  $SD = 1.83$ ).

### Procedure and Materials

After a short introduction that presented the research as a study on social perception, the participants were provided with a brief description of the target person. Given that subjective language can have within-category meanings (Biernat, 2003), this description did not include information about behaviors possibly relevant to the rationality of the thinking domain. The target person was introduced as a woman of Turkish (named Berrin) or Kurdish (named Berfin) origin (independent variable), and details about her family life (husband and children), job (salesperson), and hobbies (trips and experiencing nature) were provided, followed by a request to imagine the person. The personal information related to the target person was the same in all experimental conditions. Participants in the no-framing condition were then asked to answer questions about the thinking styles of the target person and her tendency to exhibit rational behaviors. Before this request, participants in the framing condition read a short reminder that people are prone to biased thinking, they exhibit irrational behavior, and being irrational is a natural human trait (independent variable).

We presented the target person as a woman because most psychology students in general are female. We are aware that male participants could perceive a target person as a double outgroup: as a minority member and as a woman. Thus, we conducted separate analyses to establish whether the gender of the participants was linked to the evaluation of the target person (see the results section).

Following the manipulations, the participants were presented a six-item scale of perceived irrational thinking. We constructed the scale based on research on the main cognitive biases that researchers and clinicians (Barriga, Gibbs, Potter, & Liau, 2001) have emphasized. The scale included items related to egotistic interpretations and thinking (e.g., “Berrin believes that rules and principles are for others and not for her”) and blaming others (e.g., “Berrin believes that if she makes mistakes, it’s often because she is hanging out with the wrong people”). These items were selected to test whether the participants suspected the target person manifested behaviors that demonstrate having frequent cognitive biases, rather than eliciting the participants’ subjective description of the target person’s level of irrationality. We did this to control for the shifting standards phenomena that generally affect stereotypical attribution processes (Biernat, 2003). The reliability of the scale was good: Cronbach’s alpha was .79 (see Table 1 for details).

Table 1

Descriptive Statistics for Measures Used in Studies 1–3

Variable / Study #	Country	<i>n</i>	No. of items (range)	Reliability	<i>M</i>	<i>SD</i>
<b>Attributed irrationality</b>						
1	Turkey	169	6 (0–6)	.79	3.28	1.08
2	Spain	148	8 (0–6)	.92	2.05	1.21
2	Poland	166	8 (0–6)	.83	2.78	0.88
2	Sweden	134	8 (0–6)	.89	2.64	1.11
3	Poland	161	8 (1–7)	.91	3.99	1.23
<b>Group-based dominance</b>						
3	Poland	161	8 (1–7)	.79	3.61	1.20
<b>Social desirability</b>						
3	Poland	161	7 (0–1)	.45	.44	0.23
<b>Desire for high self-esteem</b>						
3	Poland	161	3 (1–7)	.86	5.61	1.11

## Results and Discussion

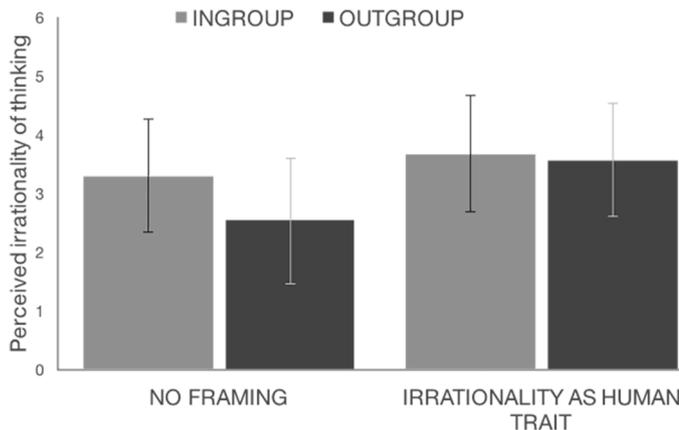
To verify the predictions, we conducted a 2 (ingroup vs. outgroup)  $\times$  2 (no-framing vs. framing) analysis of variance (ANOVA). The main effects of group membership were statistically significant,  $F(1,165) = 8.09$ ,  $p = .005$ ,  $\eta^2 = .05$ , with the ingroup member being perceived as more irrational than the outgroup member ( $M = 3.48$ ,  $SD = 0.99$  vs.  $M = 3.05$ ,  $SD = 1.14$ ). For the main effects of the framing condition,  $F(1,165) = 20.90$ ,  $p < .001$ ,  $\eta^2 = .11$ , participants in the framing condition perceived the target person as more irrational than those in the no-framing condition ( $M = 3.62$ ,  $SD = 0.97$  vs.  $M = 2.93$ ,  $SD = 1.08$ ). These effects were qualified by a statistically significant interaction effect,  $F(1, 165) = 4.58$ ,  $p = .03$ ,  $\eta^2 = .03$ . Using the G\*Power program, we calculated the effect size for this ANOVA. Cohen's  $f$  was .46 (it translated into  $f^2 = .21$ , which is considered a medium size effect).

To disentangle the interaction, we analyzed the simple effects of the group membership within each level of the framing condition. In the no-framing condition,  $F(1,165) = 12.26$ ,  $p = .001$ ,  $\eta^2 = .07$ , the outgroup member was perceived as less irrational ( $M = 2.53$ ,  $SD = 1.07$ ) than the ingroup member ( $M = 3.29$ ,  $SD = 0.96$ ), but this difference was not statistically significant when irrationality was framed as a human trait ( $M = 3.56$ ,  $SD = 0.96$  and  $M = 3.67$ ,  $SD = 0.99$  for the out- and ingroups, respectively;  $F(1,165) = .25$ ,  $p = .62$ ,  $\eta^2 < .01$ ). This result is illustrated in Figure 1.

As the target person was female, and could have been perceived differently by male and female participants, we also conducted ANOVAs with the participants' gender as covariance. Including gender did not change the results statistically significantly. All main effects were statistically significant (effects of group membership with  $\eta^2 = .05$ , framing condition with  $\eta^2 = .11$ ). The effect of gender itself was not statistically significant ( $p = .053$ ;  $\eta^2 = .03$ ). The interaction effect was weaker than without covariance ( $p = .057$ ;  $\eta^2 = .022$ ).

Hypotheses 1 and 2 were supported by the Study 1 results. As predicted by Hypothesis 1, participants attributed more irrationality to outgroup members than to ingroup members. The main effect of the frame was also statistically significant: Participants overall attributed more irrationality to others in the framing condition than in the no-

framing condition. However, the main effects were qualified by the interaction between group membership and the framing of irrationality. The pro-low-status outgroup attribution bias emerged only when no information about the nature of irrationality was provided. In contrast, when irrationality was presented as a human characteristic, participants perceived in- and outgroup members similarly in terms of their irrationality. This result provides preliminary support for the assumption that the perception of outgroup members as less irrational than ingroup members is not due to the dehumanization of outgroup members.



*Figure 1.* Evaluation of the target person in no framing and irrationality as human trait conditions as a function of the target person's membership, the Turkish sample in Study 1.

*Note.* Error bars represent standard deviations (*SDs*).

We conducted a second study to explore whether the results obtained in Turkey would be replicated in other cultural settings, such as less hierarchy-enhancing settings. We applied a different scale to assess the perceived irrationality of in- and outgroup members to check whether the effect found in Study 1 also emerged when a scale that included items related to a broader array of cognitive biases was used.

## Study 2

Study 2 was conducted to check whether the interaction between group membership and framing of attribution of irrationality extends to different cultures, in particular, Spain, Poland, and Sweden. The design in both studies was a factorial between subjects with 2 (ingroup vs. outgroup)  $\times$  2 (no framing vs. framing irrationality as a human trait). As in Study 1, we expected a main effect from group membership, such that participants would attribute more irrationality to ingroup members than to outgroup members. However, this effect should be qualified by the interaction between group membership and the irrationality frame. We expected differences between the attribution of irrationality to in- and outgroup members to be observed when no framing of irrationality occurred; thus, this attribution can be considered automatic. When irrationality is presented as a human characteristic, we predicted no difference in the attributions of irrationality as a function of group membership.

## Method

### Participants

Participants in Study 2 included psychology undergraduate students from Spain (148 total, 32 men and 116 women;  $M_{\text{age}} = 33.61$ ,  $SD = 10.36$ ), Poland (168 total, 27 men, 139 women, two missing data on gender;  $M_{\text{age}} = 22.89$ ,  $SD = 5.47$ ) and Sweden (134 total, 48 men and 86 women;  $M_{\text{age}} = 22.51$ ,  $SD = 2.89$ ).

### Procedure and Materials

The procedure adopted in this study was identical to that in Study 1, with different outgroups presented to participants in their respective countries to meet the criteria of having a low-status, minority outgroup. In Spain, the outgroup member was a Moroccan woman; in Sweden, the outgroup member was a Romanian woman; and in Poland, the outgroup member was a Russian woman. Data obtained from participants who were not Spanish, Polish, or Swedish were excluded from the analysis.

To measure perceived irrational thinking, we constructed an extended eight-item scale. Items concerning egoistic thinking and blaming others were retained. We also incorporated items based on the Cognitive Distortions Scale (Besta, Barczak, Lewandowska-Walter, & Dozois, 2014; Covin, Dozois, Ogniewicz, & Seeds, 2011) to compose a more differentiated and subtle measure of the outgroup's irrationality. We reframed items from the Cognitive Distortions Scale, which lists the 10 most common cognitive biases, to allow participants to describe how much they agreed or disagreed with statements about the target person. The items were based on such distortions as mind reading (e.g., "Anna often assumes what others are thinking without even asking or listening to them"), all-or-nothing thinking (e.g., "Anna often engages in either white or black thinking without seeing the shades of gray"), and labeling (e.g., "Anna often labels people as being of a certain kind without knowing them"). We added items that related to common biases, such as a basic attribution error (e.g., "Anna often thinks that others' setbacks are the result of their incompetence and underestimates the power of situational factors"). This scale had high reliability: Cronbach's alpha was .92, .83, and .89 for Spain, Poland, and Sweden, respectively.

## Results and Discussion

To test the predictions, we conducted a 2 (ingroup vs. outgroup)  $\times$  2 (no framing vs. framing)  $\times$  3 (country) ANOVA. All the main effects were statistically significant. The main effect of group membership was statistically significant,  $F(1,438) = 33.98$ ,  $p < .001$ ,  $\eta^2 = .07$ , with ingroup members being perceived as more irrational than outgroup members ( $M = 2.75$ ,  $SD = 1.05$  vs.  $M = 2.24$ ,  $SD = 1.11$ ). For the main effect of the framing condition,  $F(1,438) = 6.30$ ,  $p = .01$ ,  $\eta^2 = .014$ , participants in the framing condition perceived the target person as more irrational than those in the no-framing condition ( $M = 2.61$ ,  $SD = 1.08$  vs.  $M = 2.40$ ,  $SD = 1.13$ ). For the main effect of country,  $F(2,438) = 23.03$ ,  $p < .001$ ,  $\eta^2 = .095$ , participants in Poland attributed more irrationality to the target person in general, followed by Sweden and Spain ( $M = 2.78$ ,  $SD = 0.88$  vs.  $M = 2.64$ ;  $SD = 1.11$  vs.  $M = 2.05$ ,  $SD = 1.21$ ). These effects were qualified by the interaction between group membership and irrationality framing,  $F(1,438) = 4.86$ ,  $p = .03$ ,  $\eta^2 = .011$ . No other interaction effects were statistically significant. The interaction was  $F(2,438) = 2.07$ ,  $p = .13$ ,  $\eta^2 = .009$  for group membership and country;  $F(2,438) = .09$ ,  $p = .91$ ,  $\eta^2 < .001$  for framing and country, and  $F(2,438) = .17$ ,  $p = .85$ ,  $\eta^2 = .001$  for the three-way interaction among group membership, framing, and country. Using the G\*Power program, we calculated the effect size for this ANOVA. Cohen's  $f$  was .46.

To disentangle the two-way interaction between group membership and framing of irrationality, we analyzed the simple effects of group membership within each level of the framing condition. As expected, in the no-framing condition,  $F(1,438) = 32.76$ ,  $p < .001$ ,  $\eta^2 = .07$ , the outgroup was perceived as less irrational ( $M = 2.74$ ,  $SD = 1.09$  and  $M = 2.00$ ,  $SD = 1.05$  for the in- and outgroup, respectively), and in the framing condition,  $F(1,438) = 6.48$ ,  $p = .011$ ,  $\eta^2 = .02$ , this difference was definitively reduced ( $M = 2.76$ ,  $SD = 1.02$  and  $M = 2.46$ ,  $SD = 1.12$  for the in- and outgroup, respectively).

As the target person was introduced as a woman, and she could be perceived differently by male and female participants, we conducted ANOVAs with the participants' gender as covariance. With gender included, all the main effects were still statistically significant. The strength of the main effect of gender ( $\eta^2$ ) was .02 ( $p = .004$ ). The interaction effect of Group  $\times$  Framing was also statistically significant ( $p = .03$  and  $\eta^2 = .011$ ).

In addition, we explored the three-way interaction between target group membership and framing for each country. To do so, we analyzed the simple effects of group membership within each level of the framing condition for each country separately. Under the no-framing condition, psychology students in all three countries saw outgroup members as less irrational than ingroup members. Specifically, the outgroup was perceived as less irrational in Poland ( $M = 2.97$ ,  $SD = 0.91$  and  $M = 2.38$ ,  $SD = 0.87$  for the in- and outgroups, respectively;  $F(1,164) = 10.46$ ,  $p = .001$ ,  $\eta^2 = .06$ ) (see Figure 2), Spain ( $M = 2.31$ ,  $SD = 1.21$  and  $M = 1.53$ ,  $SD = 1.10$  for the in- and outgroups, respectively;  $F(1,144) = 8.20$ ,  $p = .005$ ,  $\eta^2 = .05$ ) (see Figure 3), and Sweden ( $M = 2.94$ ,  $SD = 1.01$  and  $M = 1.98$ ,  $SD = 1.05$  for the in- and outgroups, respectively;  $F(1,130) = 14.57$ ,  $p < .001$ ,  $\eta^2 = .10$ ) (see Figure 4).

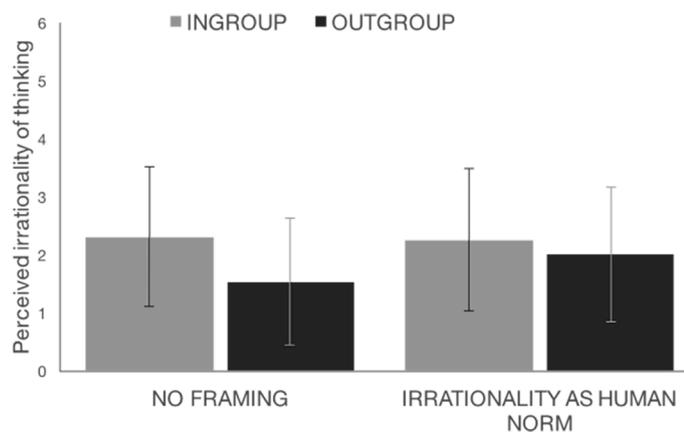


Figure 2. Evaluation of the target person in no framing and irrationality as human trait conditions as a function of the target person's membership, the Spanish sample in Study 2.

Note. Error bars represent standard deviations (SDs).

The predicted effects (differences between in- and outgroup ratings in the no-framing condition and no difference in the framing condition) were evident in Spain and Poland. The Swedish participants ascribed less irrationality to the outgroup in both conditions. In the framing condition, when irrationality was presented as a human trait, there were no differences between the in- and outgroups in Poland ( $M = 2.95$ ,  $SD = 0.70$  and  $M = 2.84$ ,  $SD = 0.89$  for the in- and outgroups, respectively;  $F(1,164) = .33$ ,  $p = .57$ ,  $\eta^2 = .002$ ), and Spain ( $M = 2.25$ ,  $SD = 1.23$  and  $M = 2.00$ ,  $SD = 1.16$ ) for the in- and outgroups, respectively;  $F(1,144) = .82$ ,  $p = .37$ ,  $\eta^2 = .006$ ). In Sweden, this difference was statistically significant ( $M = 3.12$ ,  $SD = .84$  and  $M = 2.42$ ,  $SD = 1.21$  for the in- and outgroups, re-

spectively;  $F(1,130) = 7.65, p = .006, \eta^2 = .06$ ). Nonetheless, the effect was smaller in the framing condition compared to the no-framing condition, indicating that the Swedish participants reacted similarly to the frame as the participants from the other countries.

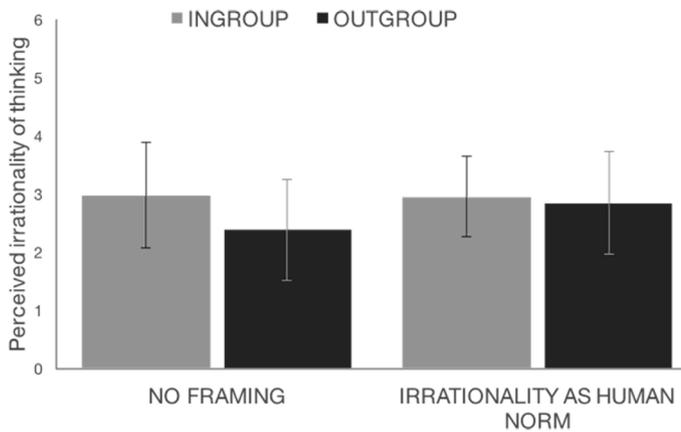


Figure 3. Evaluation of the target person in no framing and irrationality as human trait conditions as a function of the target person’s membership, the Polish sample in Study 2.

Note. Error bars represent standard deviations (SDs).

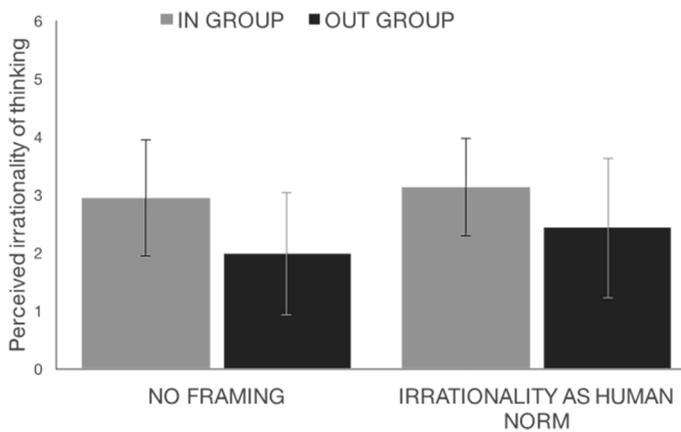


Figure 4. Evaluation of the target person in no framing and irrationality as human trait conditions as a function of the target person’s membership, the Swedish sample in Study 2.

Note. Error bars represent standard deviations (SDs).

Study 2 showed that we could generalize the effect of pro-outgroup bias among psychology students revealed in Study 1 to different cultural contexts. The psychology students ascribed more irrationality to the ingroup than to the outgroup, thus showing pro-outgroup bias. In Study 2, the framing of irrationality moderated this effect, such that the pro-low-status outgroup bias was reduced when irrationality was presented as a typical human trait.

The results, thus far, suggest that psychology students tend to exhibit pro-outgroup bias regarding the attribution of irrationality. As psychology students are thought to be in a hierarchy-attenuating field, we presumed that the effects are related to the participants’ lower social dominance orientation (Dambrun et al., 2002, 2009). Students of hierarchy-attenuating professions tend to hold favorable attitudes toward challenging hierarchical social structures.

However, we did not directly measure the group-based dominance tendency. Thus, in Study 3 we introduced a direct measure of SDO. Moreover, a possible alternative explanation of the results in Study 1 and Study 2 is social desirability or an individual's desire to maintain or heighten positive self-esteem (e.g., pro-outgroup bias could be a result of the tendency to give socially desirable answers and present oneself in a light that secures positive self-esteem). To discard this alternative explanation, we conducted a third study to directly measure group-based hierarchy beliefs, social desirability tendency, and desire for positive self-esteem.

### Study 3

Study 3 was conducted to directly examine whether hierarchy-attenuating beliefs moderate the relationship between the group membership of the target person (ingroup vs. outgroup) and perception of irrationality. In Study 1 and Study 2, we only assumed hierarchy-attenuating attitudes of the participants (psychology undergraduates). In Study 3, we wanted to examine whether adults who score low on social dominance orientation exhibit pro-outgroup bias, similar to that established in our previous studies.

Group-based dominance (SDO-D) and opposition to equality, anti-egalitarianism (SDO-E) are two separate dimensions of SDO (Jost & Thompson, 2000). We concentrated on group-based dominance because this dimension has proven to be related to ethnocentrism in low- and high-status groups. Thus, SDO-D has consequences for intergroup relations, and attitudes toward outgroup members are relatively independent of the evaluations of the social status of one's group (Jost & Thompson, 2000). This dimension has been shown to be related to group relations, ingroup favoritism, ethnocentrism, and the tendency to dominate other groups when opposition to equality was related to belief about inequality in general and system justification, not ingroup favoritism (Jost & Thompson, 2000). For example, in the United States, SDO-D is more strongly related than SDO-E to old-fashioned racism, zero-sum competition, support for immigrant persecution, and war legitimacy beliefs (Ho et al., 2012). Similarly, in Israel, SDO-D is linked to anti-Palestinian attitudes (e.g., denial of the Palestinian right to land), zero-sum competition, and nationalism (Ho et al., 2012). A large study conducted in New Zealand, using a national probability sample, showed that SDO-D is positively, and SDO-E negatively, related to ethnic identity among the European and Māori participants (Bergh, Sidanius, & Sibley, 2015).

We assumed in Hypothesis 4 that individuals with low beliefs in group-based dominance attribute less irrationality to outgroups (vs. ingroups). Thus, we predicted a statistically significant interaction between the group beliefs and the group membership of the target person.

Study 3 had two additional goals aimed at identifying alternative explanations for the effects found in previous studies. First, we explored whether propensity for the attribution of irrationality is related to social desirability and desire for high self-esteem rather than group dominance beliefs. Thus, we included measures of tendency for socially appropriate answers and high self-esteem and examined whether the proposed effect of group-based dominance emerged when we controlled for those variables.

Second, we examined whether the anticipated pro-outgroup bias of low group dominance persons occurs independently of the description of the target person. That is, when we presented the target person as an individual (e.g., as in Study 1 and Study 2) and when we asked participants to describe an average member of the target

group. The rationale was based on previous research on stereotype attribution, in which participants were asked about whole groups and not individual members of the group (Cuddy, Fiske, & Glick, 2008).

## Method

### Participants

A nonpsychology student sample of Polish adults was recruited to participate in an online study. Overall, 161 people filled out the questionnaires (75 men); the mean age was 26.54 ( $SD = 9.66$ ).

### Procedure and Materials

**Irrationality attribution** — The design of the study was a factorial 2 (ingroup vs. outgroup member)  $\times$  2 (evaluation of individual target person vs. average members of the target group) design. First, participants read the introduction to the target person(s) (Anna from Poland as an ingroup member vs. Miriam, a migrant from Chechnya as an outgroup member, or average Poles vs. average migrants from Chechnya) and were requested to imagine the presented group or person. Next, the participants were asked to complete the Attribution of Irrationality Scale. This was followed by measurement of social dominance orientation (with the Group-Based Dominance subscale), social desirability, and desire for high self-esteem.

**Perceived irrational thinking** — To measure perceived irrational thinking in this study, we used the eight-item scale from Study 2. The items were presented on a Likert-type scale, ranging from 1 (*totally disagree*) to 7 (*totally agree*). This scale had high reliability: Cronbach's alpha was .91.

**Group-based dominance orientation** — To assess the attitudes related to beliefs in a hierarchical social structure and group-based dominance, we included the eight-item subscale from the Social Dominance Orientation Scale (Pratto et al., 1994). The Group-Based Dominance (GBD) subscale included items such as “Inferior groups should stay in their place” or “Superior groups should dominate inferior groups.” This is seen as a measure related to ethnocentrism and ingroup favoritism even among low-status groups (Jost & Thompson, 2000). Items were presented on a Likert-type scale, ranging from 1 (*totally disagree*) to 7 (*totally agree*). Cronbach's alpha for this scale was .86.

**Social desirability** — To measure the tendency to answer in a socially desirable way, we included a short seven-item Polish scale that is based on Crowne and Marlowe's (1960) well-known measure of social desirability ( $SD$ ; for previous applications of the Polish version, see Czapiński, 1998). Items such as “I never hesitate to go out of my way to help someone in trouble” or “When I don't know something, I don't mind at all admitting it” were presented with *yes* and *no* options. An additive index was created in which higher values indicate a stronger tendency for the participants to present themselves in a socially desirable way.

**Desire for higher self-esteem** — As the second measure that assessed people's tendency to be perceived in a favorable manner, we employed Wiesenfeld, Swann, Brockner, and Bartel's (2007) Desire for Higher Self-Esteem Scale. This measure included four items (e.g., “I want others to have a positive attitude toward me” and “I want others to see me as a talented individual”). Cronbach's alpha was .86.

## Results and Discussion

### Preliminary Results

Preliminary correlation analyses showed that group-based dominance was related to attributions of irrationality when the target person belonged to an outgroup, regarding individual targets,  $r(27) = .55, p = .002$ , and for average members of the target group,  $r(43) = .56, p < .001$ . No statistically significant correlation was obtained when the ingroup was evaluated,  $r(44) = .16, p = .30$  when presented with the individual target and  $r(43) = .10, p = .51$  for average members of the target group (see Table 2).

Table 2

Zero-Order Correlations With Pearson's  $r$  for Study 3, Separately for Two Methods of Presenting the Target Person(s) and Their Group Membership

Variable	Ingroup				Outgroup			
	1	2	3	4	1	2	3	4
1. Group-based dominance	–	.31*	-.23	.16	–	.47*	-.02	.55**
2. Desire for high self-esteem	-.18	–	-.14	-.06	.39**	–	.10	.10
3. Social desirability	-.40**	.20	–	-.05	-.06	.10	–	-.26
4. Attributed irrationality	.10	-.08	-.08	–	.56**	.45**	.09	–

Note. Results for the individual target person are presented above the diagonal ( $n = 45$  and  $28$  for the in- and outgroups, respectively) and for the condition target persons as average members of the group below the diagonal ( $n = 44$  for the in- and outgroup target persons).

\* $p < .05$ . \*\* $p < .01$ .

### Role of Group-Based Dominance Orientation

To examine Hypothesis 4 and extend previous findings on attributions of irrationality, we conducted a hierarchical regression. The regression tested for the effects of group-based dominance (unstandardized), target group membership (effect coded: ingroups =  $-1$  vs. outgroups =  $1$ ), and the description of the target person, that is, the manner in which the target persons were presented (individual =  $-1$  vs. average members of the group =  $1$ ), on attribution of biased and irrational thinking. We controlled for social desirability and desire for higher self-esteem (both variables were unstandardized) and introduced them in the first step of the regression.

As seen in Table 3, participants who scored higher on group-based dominance were more likely to attribute irrationality to the target person. Target person group membership was a statistically significant predictor as well, with ingroup members seen as more irrational. These effects were qualified by the interaction between group membership and GBD (see Figure 5). That is, participants low in dominance perceived outgroup members as less irrational, whereas people high in dominance perceived ingroup members as less irrational. The manner in which the target persons were described was also linked to attribution of irrationality. That is, the evaluation of the average members of the group (vs. the individualized target person) resulted in more irrationality attributed.

Table 3

*Hierarchical Multiple Regressions Analysis With Enter Method for Social Desirability, Desire for High Self-Esteem, Group-Based Dominance, Description of the Target Person(s), Target Person's Group Membership, and Interactions Effects, Predicting Irrationality Attribution in Study 3.*

Predictor	Irrationality attribution				R <sup>2</sup>
	B	SE	β	p	
<b>Model 1</b>					0.01
Social desirability	-0.35	0.43	-0.06	.42	
Desire for self-esteem	0.11	0.09	0.10	.21	
<b>Model 2</b>					0.32
Social desirability	0.07	0.37	0.01	.84	
Desire for self-esteem	0.05	0.08	0.05	.51	
Target membership	-0.29	0.08	-0.24	<.001	
Target description	0.56	0.08	0.46	<.001	
Group-based dominance	0.29	0.07	0.29	<.001	
<b>Model 3</b>					0.37
Social desirability	-0.10	0.37	-0.02	.78	
Desire for self-esteem	0.02	0.08	0.02	.83	
Target membership	-0.98	0.26	-0.80	<.001	
Target description	0.47	0.26	0.39	.07	
Group-based dominance	0.30	0.07	0.29	<.001	
Membership × Description	-0.21	0.26	-0.17	.41	
Membership × GBD	0.19	0.07	0.60	.006	
GBD × Description	0.02	0.07	0.06	0.79	
Membership × Description × GBD	0.03	0.07	0.08	0.70	

Neither the effect of *SD* nor a desire for higher self-esteem was statistically significant. In line with the results from Study 1 and Study 2, the interaction effect showed that people with low group-based dominance orientation (presumably, hierarchy attenuators) present pro-outgroup bias and attribute lower irrationality to outgroup members (than to ingroup ones). To disentangle the interaction effect, we separately calculated the effects of GBD on the attribution of irrationality for in- and outgroup members (PROCESS bootstrapping macro, Model 1; Hayes, 2013). In line with the prediction, there was a strong statistically significant conditional effect of GBD on the attribution of irrationality when the outgroup was evaluated, showing that stronger group-based dominance orientation is related to the tendency to attribute more irrational thinking ( $\beta = 0.51$ ,  $SE = 0.11$ ,  $p < .001$ ; 95% confidence intervals (CIs) [.30, .72]). The conditional effect of GBD on the attribution of irrationality to the target person's ingroup membership was not statistically significant ( $\beta = 0.10$ ,  $SE = .10$ ,  $p = .36$ ; 95% CIs [-.11, .30]). This result confirmed that beliefs in group dominance and a hierarchical social world are more strongly related to the attribution of irrationality to outgroup members than to ingroup members.

Study 3 showed similar effects as in Study 1 and Study 2, but this time among individuals with low scores on the measure for group-based dominance. That is, people who are less ethnocentric and do not want their own group to dominate other groups exhibit similar pro-disadvantaged outgroup bias as psychology undergraduates. Thus, ingroup members are perceived to be more prone to irrational biased thinking than outgroup members.

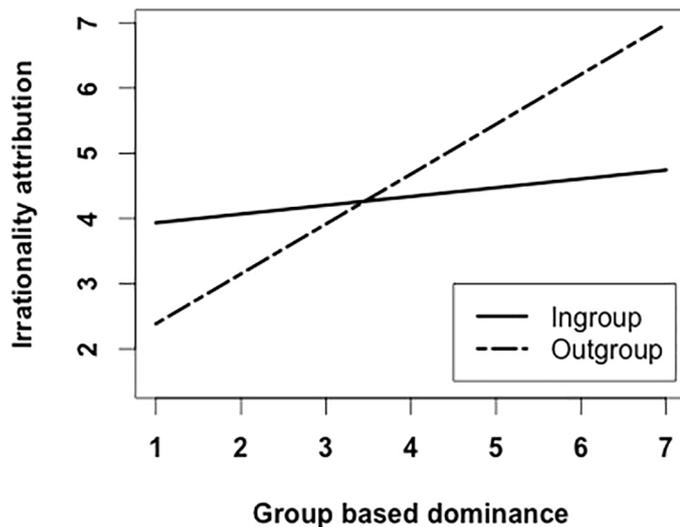


Figure 5. Plot of the two-way interaction effects for unstandardized variable group-based dominance and the target person's membership on the perception of irrationality of the target persons.

## General Discussion

In this study, we aimed to show that outgroup members can be perceived as less irrational than ingroup members under specific conditions and by certain individuals. We expected this effect to be evident among hierarchy-attenuating students (e.g., psychology) as they are less inclined to negatively categorize minority groups and are usually less supportive of social hierarchies than students of other majors. We hypothesized that participants would show pro-low-status outgroup bias when they evaluated the irrationality of the outgroup. To check whether this effect is a form of dehumanization, we included a condition in which participants were reminded that irrationality is a human trait. We conducted three studies in different countries varying in power distance levels to examine the universality and cross-cultural generalizability of the findings. The results supported the hypotheses and showed that in a condition without irrationality framed as a human trait, psychology students perceived outgroup members as less irrational than ingroup members. That is, participants showed a pro-outgroup bias for low-status outgroup members and evaluated ingroup members as significantly more irrational than the outgroup ones. However, when participants were reminded that irrationality is a human trait, the perceived differences between in- and outgroup members were reduced. For Sweden, the difference was still statistically significant, although the reason for this result is not entirely clear. As Sweden is the most egalitarian country among the four countries in this study (Hofstede, 2001), we assume that the bias toward low-status groups is stronger than in the other three countries and thus, possibly less affected by the manipulation. The second possible explanation is social desirability. Given the hotly debated situation of poor migrants in the Swedish media, the participants may have been reluctant to rate the groups negatively so that the participants did not appear racist. Although we controlled for social desirability in Study 3, we did not conduct a follow-up study in Sweden. However, these explanations are speculative, and further investigation is needed.

Nevertheless, the pattern observed among psychology students was also seen among Polish adults with low group-based dominance orientation, but not among high group-based dominance individuals. It has been well-established that individuals in general hold group-serving biases in favor of ingroups (Kenworthy & Miller, 2002;

Pronin, 2009). Group-serving biases act as a strong determinant of intergroup relationships affecting the autonomic evaluations and perceptions of outgroup members. People tend to make more favorable attributions for their ingroups compared to outgroups. However, we showed that this may not be the case among hierarchy-attenuating students and people who do not support group-based dominance. Psychology students may differ from the general population in terms of outgroup attributions because research has revealed that individuals with lower authoritarianism and social dominance orientation and higher humanism are more likely to choose psychology as a major (Dambrun et al., 2002, 2009; Rubinstein, 2003).

As low group-based dominance is associated with lower ethnocentrism for high- and low-status groups, those with a low group-dominance orientation may be motivated to avoid ingroup favoritism, may be more concerned with low-status outgroups and show vigilance in making outgroup attributions. Having a strong motivation for attenuating groups' hierarchy and a concern for not discriminating against outgroup members may have driven the participants to spontaneously show a pro-outgroup bias for low-status outgroups. The differences between the framing and no-framing conditions among psychology students may stem from the fact that when reminded that irrationality is a typical human trait, the participants may have realized that attributing irrationality to outgroups does not mean discriminating against them and thus, supported hierarchy and inequality between groups.

## Limitations and Future Directions

Overall, the results suggest that pro-low-status outgroup bias is evident among psychology students and low group-dominance participants. Future research could extend this work and compare whether the effects in the present studies are weaker or do not exist among hierarchy-enhancing participants. Moreover, we presented only one study from Poland that controlled for the role of social desirability and the desire for higher self-esteem. More studies from various cultural contexts are needed to rule out other possible explanations of the effects, particularly those focusing on the role of self-presentation and providing insight in line with societal expectations. The measure of social desirability was shortened and used in only one culture. A subtler scale might be used in follow-up studies. In addition, the next step in the exploration of this research area could be related to examining whether this pro-low-status outgroup bias extends to other intergroup contexts (e.g., the perception of lesbian, gay, bisexual, and transgender (LGBT) individuals by heterosexuals with low group-based dominance) and whether this bias is related to not only irrationality attribution but also prescription of other traits considered positive and worth having.

## Conclusions

Hierarchy-attenuating individuals with low social domination, ethnocentrism, and ingroup favoritism present fewer negative stereotypes toward disadvantaged groups (Pratto et al., 1994). We tested the idea that opposition to strong group-based hierarchy and domination of one's group over others should be related to stronger attribution bias toward disadvantaged outgroups (not ingroups). The studies' results revealed an effect among psychology students in four cultures and people with low group-based dominance orientation. This effect manifested in less attribution of the tendency to exhibit irrational biased thinking to disadvantaged outgroup members.

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## Competing Interests

The authors have declared that no competing interests exist.

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## References

- Bäck, E. A. (2013). Position toward the status quo: Explaining differences in intergroup perceptions between left- and right-wing affiliates. *Journal of Applied Social Psychology, 43*, 2073-2082. <https://doi.org/10.1111/jasp.12160>
- Bäck, E. A., & Lindholm, T. (2014). Defending or challenging the status quo: Position effects on biased intergroup perceptions. *Journal of Social and Political Psychology, 2*(1), 77-97. <https://doi.org/10.5964/jspp.v2i1.158>
- Barriga, A. Q., Gibbs, J. C., Potter, G., & Liau, A. K. (2001). *How I Think (HIT) questionnaire manual*. Champaign, IL, USA: Research Press.
- Bergh, R., Sidanius, J., & Sibley, C. G. (2015). Dimensions of social dominance: Their personality and socio-political correlates within a New Zealand probability sample. *New Zealand Journal of Psychology, 44*(2), 25-34.
- Besta, T., Barczak, A., Lewandowska-Walter, A., & Dozois, D. J. A. (2014). Polish version of the Cognitive Distortions Scale (CDS): Preliminary validation and personality correlates. *Current Issues in Personality Psychology, 2*(3), 177-183. <https://doi.org/10.5114/cipp.2014.46234>
- Besta, T., Szulc, M., & Jaśkiewicz, M. (2015). Political extremism, group membership, and personality traits: Who accepts violence? *Revista de Psicología Social: International Journal of Social Psychology, 30*, 563-585. <https://doi.org/10.1080/02134748.2015.1065085>
- Biernat, M. (2003). Toward a broader view of social stereotyping. *The American Psychologist, 58*, 1019-1027. <https://doi.org/10.1037/0003-066X.58.12.1019>
- Brewer, M. B. (1979). In-group bias in the minimal intergroup situation: A cognitive-motivational analysis. *Psychological Bulletin, 86*, 307-324. <https://doi.org/10.1037/0033-2909.86.2.307>
- Brockner, J., Ackerman, G., Greenberg, J., Gelfand, M. J., Francesco, A. M., Chen, Z. X., . . . Kirkman, B. L. (2001). Culture and procedural justice: The influence of power distance on reactions to voice. *Journal of Experimental Social Psychology, 37*, 300-315. <https://doi.org/10.1006/jesp.2000.1451>
- Covin, R., Dozois, D. J. A., Ogniewicz, A., & Seeds, P. M. (2011). Measuring cognitive errors: Initial development of the Cognitive Distortions Scale (CDS). *International Journal of Cognitive Therapy, 4*, 297-322. <https://doi.org/10.1521/ijct.2011.4.3.297>
- Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology, 24*, 349-354. <https://doi.org/10.1037/h0047358>

- Cuddy, A. J. C., Fiske, S. T., & Glick, P. (2008). Warmth and competence as universal dimensions of social perception: The stereotype content model and the BIAS map. *Advances in Experimental Social Psychology*, 40, 61-149. [https://doi.org/10.1016/S0065-2601\(07\)00002-0](https://doi.org/10.1016/S0065-2601(07)00002-0)
- Cummings, J. (2008). *Spirit or psyche? Religiousness in undergraduate psychology majors* (Doctoral dissertation, Bowling Green State University, Bowling Green, OH, USA). Retrieved from [https://etd.ohiolink.edu/rws\\_etd/document/get/bgsu1214070170/inline](https://etd.ohiolink.edu/rws_etd/document/get/bgsu1214070170/inline)
- Czapiński, J. (1998). *Jakość życia Polaków w czasie zmiany społecznej 1991-1997* [Quality of life of Poles during the social system change 1991-1997]. Warszawa, Poland: Instytut Studiów Społecznych Uniwersytet Warszawski.
- Dambrun, M., Guimond, S., & Duarte, S. (2002). The impact of hierarchy-enhancing vs. attenuating academic major on stereotyping: The mediating role of perceived social norm. *Current Research in Social Psychology*, 7(8), 114-136.
- Dambrun, M., Kamiejski, R., Haddadi, N., & Duarte, S. (2009). Why does social dominance orientation decrease with university exposure to the social sciences? The impact of institutional socialization and the mediating role of "geneticism." *European Journal of Social Psychology*, 39, 88-100. <https://doi.org/10.1002/ejsp.498>
- Duckitt, J., & Sibley, C. G. (2010). Right-wing authoritarianism and social dominance orientation differentially moderate intergroup effects on prejudice. *European Journal of Personality*, 24, 583-601.
- Fischer, R., Hanke, K., & Sibley, C. G. (2012). Cultural and institutional determinants of social dominance orientation: A cross-cultural meta-analysis of 27 societies. *Political Psychology*, 33, 437-467. <https://doi.org/10.1111/j.1467-9221.2012.00884.x>
- Guimond, S. (2000). Group socialization and prejudice: The social transmission of intergroup attitudes and beliefs. *European Journal of Social Psychology*, 30, 335-354. [https://doi.org/10.1002/\(SICI\)1099-0992\(200005/06\)30:3<335::AID-EJSP994>3.0.CO;2-V](https://doi.org/10.1002/(SICI)1099-0992(200005/06)30:3<335::AID-EJSP994>3.0.CO;2-V)
- Haslam, N. (2006). Dehumanization: An integrative review. *Personality and Social Psychology Review*, 10, 252-264. [https://doi.org/10.1207/s15327957pspr1003\\_4](https://doi.org/10.1207/s15327957pspr1003_4)
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, NY, USA: The Guilford Press.
- Hewstone, M., Rubin, M., & Willis, H. I. (2002). Intergroup bias. *Annual Review of Psychology*, 53, 575-604. <https://doi.org/10.1146/annurev.psych.53.100901.135109>
- Ho, A. K., Sidanius, J., Pratto, F., Levin, S., Thomsen, L., Kteily, N., & Sheehy-Skeffington, J. (2012). Social dominance orientation: Revisiting the structure and function of a variable predicting social and political attitudes. *Personality and Social Psychology Bulletin*, 38, 583-606. <https://doi.org/10.1177/0146167211432765>
- Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations*. Thousand Oaks, CA, USA: Sage.
- Jost, J. T., & Thompson, E. P. (2000). Group-based dominance and opposition to equality as independent predictors of self-esteem, ethnocentrism, and social policy attitudes among African Americans and European Americans. *Journal of Experimental Social Psychology*, 36, 209-232. <https://doi.org/10.1006/jesp.1999.1403>
- Kennedy, K. A., & Pronin, E. (2008). When disagreement gets ugly: Perceptions of bias and the escalation of conflict. *Personality and Social Psychology Bulletin*, 34, 833-848. <https://doi.org/10.1177/0146167208315158>
- Kenworthy, J. B., & Miller, N. (2002). Attributional biases about the origins of attitudes: Externality, emotionality and rationality. *Journal of Personality and Social Psychology*, 82, 693-707. <https://doi.org/10.1037/0022-3514.82.5.693>

- Kteily, N., Ho, A. K., & Sidanius, J. (2012). Hierarchy in the mind: The predictive power of social dominance orientation across social contexts and domains. *Journal of Experimental Social Psychology, 48*, 543-549. <https://doi.org/10.1016/j.jesp.2011.11.007>
- Kteily, N. S., Sidanius, J., & Levin, S. (2011). Social dominance orientation: Cause or “mere effect”? Evidence for SDO as a causal predictor of prejudice and discrimination against ethnic and racial outgroups. *Journal of Experimental Social Psychology, 47*, 208-214. <https://doi.org/10.1016/j.jesp.2010.09.009>
- Langbert, M. (2018). *Homogeneous: The political affiliations of elite liberal arts college faculty*. Retrieved from [https://www.nas.org/articles/homogenous\\_political\\_affiliations\\_of\\_elite\\_liberal](https://www.nas.org/articles/homogenous_political_affiliations_of_elite_liberal)
- Lewinski, M. (2009). “You’re moving from irrelevant to irrational”: Critical reactions in Internet discussion forums. In *Proceedings of the Ontario Society for the Study of Argumentation Conference, Vol. 8 (2009)*, Paper 104. Retrieved from <http://scholar.uwindsor.ca/ossaarchive/OSSA8/papersandcommentaries/104>
- Pettigrew, T. F. (1979). The ultimate attribution error: Extending Allport’s cognitive analysis of prejudice. *Personality and Social Psychology Bulletin, 5*, 461-476. <https://doi.org/10.1177/014616727900500407>
- Pratto, F., Sidanius, J., & Levin, S. (2006). Social dominance theory and the dynamics of intergroup relations: Taking stock and looking forward. *European Review of Social Psychology, 17*, 271-320. <https://doi.org/10.1080/10463280601055772>
- Pratto, F., Sidanius, J., Stallworth, L. M., & Malle, B. F. (1994). Social dominance orientation: A personality variable predicting social and political attitudes. *Journal of Personality and Social Psychology, 67*(4), 741-763. <https://doi.org/10.1037/0022-3514.67.4.741>
- Prescott, S. L., & Logan, A. C. (2018). From authoritarianism to advocacy: Life-style driven, socially transmitted conditions require a transformation in medical training and practice. *Challenges, 9*, Article 10. <https://doi.org/10.3390/challe9010010>
- Pronin, E. (2009). The introspection illusion. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 41, pp. 1-67). Burlington, MA, USA: Academic Press.
- Rubinstein, G. (2003). Authoritarianism and its relation to creativity: A comparative study among students of design, behavioral sciences and law. *Personality and Individual Differences, 34*, 695-705. [https://doi.org/10.1016/S0191-8869\(02\)00055-7](https://doi.org/10.1016/S0191-8869(02)00055-7)
- Sibley, C. G., & Liu, J. H. (2010). Social dominance orientation: Testing a global individual difference perspective. *Political Psychology, 31*, 175-207. <https://doi.org/10.1111/j.1467-9221.2009.00748.x>
- Sidanius, J., Levin, S., Liu, J., & Pratto, F. (2000). Social dominance orientation, anti-egalitarianism and the political psychology of gender: An extension and cross-cultural replication. *European Journal of Social Psychology, 30*(1), 41-67. [https://doi.org/10.1002/\(SICI\)1099-0992\(200001/02\)30:1<41::AID-EJSP976>3.0.CO;2-O](https://doi.org/10.1002/(SICI)1099-0992(200001/02)30:1<41::AID-EJSP976>3.0.CO;2-O)
- Sidanius, J., & Pratto, F. (2001). *Social dominance: An intergroup theory of social hierarchy and oppression*. Cambridge, United Kingdom: Cambridge University Press.
- Sidanius, J., Pratto, F., Martin, M., & Stallworth, L. M. (1991). Consensual racism and career track: Some implications of social dominance theory. *Political Psychology, 12*, 691-721. <https://doi.org/10.2307/3791552>
- Sidanius, J., Pratto, F., & Mitchell, M. (1994). In-group identification, social dominance orientation, and differential intergroup social allocation. *The Journal of Social Psychology, 134*, 151-167. <https://doi.org/10.1080/00224545.1994.9711378>
- Stephan, W. G., & Stephan, C. W. (2000). An integrated threat theory of prejudice. In S. Oskamp (Ed.), *Reducing prejudice and discrimination: “The Claremont Symposium on Applied Social Psychology”* (pp. 23-45). Mahwah, NJ, USA: Erlbaum.

- Strube, M. J., & Rahimi, A. M. (2006). "Everybody knows it's true": Social dominance orientation and right-wing authoritarianism moderate false consensus for stereotypic beliefs. *Journal of Research in Personality, 40*, 1038-1053.  
<https://doi.org/10.1016/j.jrp.2005.10.004>
- Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33-47). Monterey, CA, USA: Brooks-Cole.
- Weller, L., & Nadler, A. (1975). Authoritarianism and job preference. *Journal of Vocational Behavior, 6*, 9-14.  
[https://doi.org/10.1016/0001-8791\(75\)90016-0](https://doi.org/10.1016/0001-8791(75)90016-0)
- Wiesenfeld, B. M., Swann, W. B., Brockner, J., & Bartel, C. A. (2007). Is more fairness always preferred? Self-esteem moderates reactions to procedural justice. *Academy of Management Journal, 50*, 1235-1253.