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Perceived Essentialism, Group Relative Deprivation, and Collective Action

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Abstract

Group relative deprivation occurs when an individual believes that a group with which they identify has fewer resources than another group. The experience of group relative deprivation often includes feelings of injustice, anger, and resentment. Group relative deprivation may result in inter-group attitude changes, such as increased prejudice, and a willingness to engage in collective action to change the distribution of resources. Despite findings that relative deprivation is a subjective perception of resource distribution, few, if any, studies have investigated if the perceived essentialism of the groups involved in the perceived inequality impact the intensity of group relative deprivation. When groups are perceived as more essentialized, individuals believe that members of different groups have deep, unchanging differences. To test if perceived essentialism impacts group relative deprivation, participants were told that a group with which they identify has a lower average GPA than another group. Conditions varied on perceived essentialism of groups involved in the grade disparity – gender as the more-essentialized condition, and academic major division as the less-essentialized condition. Analysis revealed that females in the gender condition reported more intense relative deprivation experiences than females in the major condition, while the opposite was true for males. Though the role of essentialism remains unclear, social perception seems to play a role in the experience and outcomes of relative deprivation. These findings may have implications for resolving real-world conflicts that arise from a perceived unequal distribution of resources between groups.

Perceived Essentialism, Group Relative Deprivation, and Collective Action

Inequalities exist on many scales: between individuals, between communities, and between countries. The globalization of media has given people more opportunities to see these inequalities and to compare themselves to a variety of other types of people whom they may not otherwise encounter. Becoming aware of inequality may cause people to feel deprived. The phenomenon wherein people feel subjectively deprived in light of a social comparison is known as relative deprivation. To feel relative deprivation, an individual must evaluate an inequality as unjust and believe that they deserve resources that they do not have (Smith, Pettigrew, Pippin, & Bialosiewicz, 2012). The cognitive component of relative deprivation often leads to emotional harm, such as feelings of anger, resentment, and frustration (e.g. Bernstein & Crosby, 1980; Olson & Ross, 1983; Smith, Cronin, & Kessler, 2008). The negative cognitive and affective components of relative deprivation may then lead deprived individuals to engage in harmful behavior, including violence, in order to balance the inequality.

Individuals often feel negative cognitions and emotions and engage in behavior on behalf of a group with which they identify, also known as an in-group. In contrast, an out-group is a group with which the individual does not identify. Relative deprivation may occur when people perceive an inequality between themselves, or other members of their in-group, and members of an out-group. Despite the increasing number of out-groups that people can compare themselves to as a result of media exposure, little work has been done to determine if the *type* of out-group influences feelings of relative deprivation. One way that groups differ, for instance, is by how much people perceive groups members as having an underlying essence, in other words, as having deep, unchanging differences. The present study investigated whether relative deprivation for which groups are perceived as sharing an underlying essence increases the affective,

cognitive, and potential behavioral response, compared to groups with no perceived underlying essence.

Samuel Stouffer and his colleagues first illustrated the experience of relative deprivation in a study of American soldiers in World War II (Stouffer, Suchman, DeVinney, Star & Williams, 1949). They found that Army Air corpsmen reported more frustration with promotions than military police, despite having an objectively higher rate of promotion. It seemed that the reference group that the soldiers compared themselves to influenced their perception of the situation. Army Air corpsmen compared themselves to other Army Air corpsman, who often received promotions, and felt that they too deserved promotion. Military policemen, however, compared themselves to other military policemen, who rarely received promotions, and were content with their opportunities for promotion. Since Stouffer et al. coined the concept of relative deprivation, it has been studied within a variety of countries and disciplines and has been incorporated into other theoretical frameworks.

Across the many relative deprivation studies, one common finding is that individual, or egoistic, relative deprivation is an entirely different experience than group, or fraternal, relative deprivation (Runciman, 1966). Individual relative deprivation is when a single person compares him or herself to another individual. Group relative deprivation is when an individual sees an in-group as deprived relative to an out-group, and may or may not feel relatively deprived themselves (Walker & Mann, 1987). Individual relative deprivation is often associated with negative internal states such as stress and compromised wellbeing, whereas group relative deprivation tends to be associated with group-level outcomes, such as inter-group attitude change. Group relative deprivation often results in attitude changes such as increased beliefs that the political and social system is illegitimate, increased prejudice and negative attitudes toward

an out-group, and increased positive feelings toward the in-group (Smith et al., 2012; Pettigrew et al., 2008).

While some studies have shown that group relative deprivation leads to attitude change, others have found collective action as an outcome (e.g. Kawakami & Dion, 1993; Walker & Mann, 1987; Wright, Taylor, & Moghaddam, 1990). Collective action is when an individual acts as a representative of an in-group to improve the conditions of the entire group, as opposed to intending to improve only their own conditions. Past studies have found that group relative deprivation predicts the desire to engage in collective action when two beliefs are present (Grant, Abrams, Robertson, & Garay, 2015; Schmitt, Maes, & Wideman, 2010; Smith et al., 2008). First, group members must believe that it is possible for the inequality to change. Second, they must believe that the group itself has enough power to change the inequality. If individuals believe that change is impossible or that group members would be unable to change the inequality, then collective action would be seen as futile. Although a lack of relative deprivation inevitably leads to inaction, the presence of relative deprivation does not inevitably lead to action (Wright et al., 1990). Thus, it is important to continue to establish the conditions under which relative deprivation is likely to lead to collective action.

The present study aims to investigate not only when people are willing to engage in collective action, but also when members of disadvantaged groups favor certain types of collective action tactics. Sometimes, groups engage in unobtrusive or peaceful collective action, while other times groups choose to use violence to advance their movements. It is unclear exactly when disadvantaged groups decide to use more aggressive tactics. Some researchers suggest that the amount of grievance, or relative deprivation, a group experiences is positively associated with the amount of frustration group members feel, and predicts whether or not the

group will use aggressive tactics (Shaykhutdinov & Bragg, 2011). Another prediction of the grievance approach is that issues that are more central to identity cause more frustration, and therefore more aggression (Shaykhutdinov & Bragg, 2011).

The aggressiveness of collective action tactics, or whether or not groups choose to engage in collective action at all, may depend on perceptions of the group involved in the deprivation situation. In past research, for example, strength of identity with the in-group has been positively associated with feelings of relative deprivation (Tropp & Wright, 1999). This association may occur because a stronger group identity causes members to feel more loyalty to the in-group and to feel more anger on the group's behalf. Researchers that have used a Social Identity Theory framework have also found that groups with less boundary permeability, meaning that access to group membership is closed, and groups where membership is considered stable, are more likely to lead to feelings of group relative deprivation (Ellemers, 2002; Tajfel, 1978; Wright & Tropp, 2002). When group boundaries are permeable, meaning that access to group membership is open and upward mobility is possible, individuals are more likely to perceive deprivation as individual-based and respond with individual behaviors. When individuals believe that upward social mobility is not possible, they will attempt to improve group outcomes instead. However, not all studies have supported the theory that the accessibility of group membership explains collective action (Wright et al., 1990). It is possible that the perception of a group affects behavior more than objective boundary permeability. If individuals believe that group membership is defined by a deep, underlying characteristic, then they may be more likely to use collective action to balance an inequality.

The lay perception that visible, surface-level differences between individuals represent deep, unchangeable differences based on group membership is known as psychological

essentialism. Perceived essentialism is usually a gut feeling, rather than something that individuals can articulate. People may not know exactly which common underlying features define group members, but they know that they exist (Prentice & Miller, 2007). Categorization often affects an individual's response to members of certain categories. For instance, a person who believes in a group essence is more likely to attribute any observed differences between individuals from unique groups to fundamental group differences (Miller & Prentice, 1999). An individual who believes in a group essence also tends to consider essentialism to be stable at any given point in time. However, because psychological essentialism is a subjective social perception, it changes over time, as the norms of social categorization change. Whether a group is perceived as more or less essentialized also varies by culture. Haslam, Rothschild, and Ernst assessed the degree of essentialism that Americans perceived for various groups (2000). They found that groups such as gender, ethnicity, and disability tend to be the most essentialized, while groups of common interests, appearance, and social class tend to be the least essentialized.

The degree to which individuals believe that a group is essentialized may impact how they think about or interact with group members. For instance, perceived essentialism has been found to impact social perception, social motivation, attributions for behavior, and social attitudes (Prentice & Miller, 2007). Also, people tend to think it will be more difficult to resolve a difference when it occurs between people from two different, essentialized groups than when it occurs between two people of the same group or from less essentialized categories (Prentice & Miller, 1999).

Relative deprivation is one kind of perceived difference that needs to be resolved. Thus, it is likely that when groups are more essentialized, relative deprivation will be more intense and seen as more difficult to overcome. To test this theory, the present study intended to create the

experience of group relative deprivation in participants on behalf of either a more-essentialized or less-essentialized in-group, by informing students that their in-group's grade point average was significantly less than their out-group's grade point average. Participants then reported their cognitive and affective responses, and opinions on using various collective action tactics for a movement with the goal of equalizing grade point averages across groups.

When all participants are made to feel group relative deprivation, it is expected that those who are told that a more essentialized in-group, gender, has a low GPA will experience more intense feelings of anger, resentment, and injustice, compared to those who are told that a less essentialized in-group, academic major division, has a low GPA. If perceived essentialism successfully predicts intensity of cognitive and affective responses, then it should follow that members of the more essentialized group also favor more intense behavioral outcomes. Specifically, they should be more willing to engage in collective action, approve of more aggressive action tactics, and believe that the inequality is more difficult to overcome.

Pilot

The decision to use the categories of gender and major division as the more and less essentialized conditions was determined by a pilot study. To decide which groups to use as conditions, a sample of the student population was surveyed about the perceived essentialism of various groups on campus. The survey also included questions about how strongly participants identified with various aspects of their identity, because past studies have shown that a stronger group identity often leads to stronger feelings of group relative deprivation (Tropp & Wright, 1999). Other than gender and academic major division, the options explored in the pilot were collegiate affiliation and political affiliation.

Method

Participants. Participants totaled 43 (males = 5, females = 22, non-binary = 2; 14 unreported) undergraduate students. Some participants ($n = 25$) were recruited from an introductory psychology course and received course credit in return for their participation. The rest of the participants ($n = 18$) were randomly selected from the school directory and recruited by email. All participants were over the age of 18, consented to participation, and were allowed to withdraw from the study at any time.

Materials and Procedure. Participants first reported their age and number of semesters at college so far. They then indicated their identities within four categories—as students of the college, gender, major division, and political affiliation—and rated on a five-point Likert scale how much they agreed with three statements, which were identical for each identity. These statements were: “Identification with being an [in-group member] is important to me,” “Being an [in-group member] is an important aspect of my sense of self,” and, “I feel strong ties with other [in-group members].” These questions were adapted from past studies (Brown, Condor, Mathews, Wade, & Williams, 1986; Simon & Ruhs, 2008; Zagefka, Binder, Brown, & Hancock, 2013). In the current study, the scale had good reliability, with *alphas* ranging from 0.76 to 0.95.

After answering the questions about strength of in-group identity, participants responded to five items meant to uncover the perceived essentialism of nine groups: students at the college itself, students on other college campuses, males, females, natural science students, social science students, humanities students, Democrats, and Republicans. The items asked about the perceived discreteness, naturalness, informativeness, inherence, and groupness of each of these groups on a five-point Likert scale (see Appendix A). The items were selected from a series of questions included in other studies that measured the perceived essentialism of various groups

(Demoulin, Leyens, & Yzerbyt, 2006; Haslam et al., 2000). Reliability for this scale in the current study was not as strong as for strength of identity, as *alphas* ranged from 0.12 to 0.64.

Results and Discussion

A repeated measures ANOVA revealed no significant differences in strength of identity between groups ($F(3, 123) = 0.324, p = 0.81$; see Table 1). This removed the potential confound of strength of identity.

Table 1

<i>Strength of Identity</i>		
Group Identity	<i>M</i>	<i>SD</i>
College	3.66	0.82
Gender	3.69	0.79
Major Division	3.55	0.78
Political Affiliation	3.65	0.98

The perceived essentialism of the groups did not differ significantly, and the results between questions were less consistent than expected (see Table 2). Based on these results, the choice of which groups to use in the experimental manipulation was not clear. Instead of relying entirely on the data from the pilot study to determine conditions, logistical issues were also taken into consideration. For instance, political affiliation was problematic because it made the cover story less believable. Early in the data collection process, three participants completed the survey with political affiliations as the groups being compared, but were suspicious because they did not believe that professors would know this information during the grading process. Comparing students at the college to students at other colleges was also problematic because they did not fit well into the cover story, especially the collective action sections.

Table 2

<i>Perceived Essentialism Scores for Nine Groups</i>						
Question, <i>M(SD)</i>						
Group	Discreteness	Naturalness	Informativeness	Inherence	Groupness	Total

Oberlin	4.21 (1.08)	2.97 (1.20)	3.79 (0.98)	2.97 (1.14)	3.77 (1.16)	3.54 (1.11)
Non-Oberlin	3.51 (1.41)	2.64 (1.27)	1.69 (0.92)	2.28 (1.19)	2.62 (1.39)	2.55 (1.24)
Males	2.69 (1.08)	3.31 (1.03)	2.62 (0.96)	2.79 (1.08)	3.28 (0.89)	2.94 (1.01)
Females	2.69 (1.08)	3.33 (1.03)	2.54 (0.91)	2.74 (1.07)	3.38 (0.94)	2.94 (1.01)
Natural Science	3.05 (0.92)	2.92 (1.04)	3.08 (1.09)	2.87 (1.22)	3.31 (1.08)	3.05 (1.07)
Social Science	2.92 (0.84)	2.82 (0.97)	3.00 (0.97)	2.74 (1.14)	3.18 (0.97)	2.93 (0.98)
Humanities	2.97 (0.87)	2.85 (1.01)	3.08 (1.04)	2.85 (1.20)	3.10 (0.97)	2.97 (1.02)
Republicans	3.44 (1.10)	2.72 (1.08)	3.90 (0.97)	3.31 (1.06)	3.72 (1.28)	3.42 (1.10)
Democrats	3.36 (0.96)	2.72 (1.05)	3.79 (0.89)	3.28 (0.97)	3.74 (1.19)	3.38 (1.01)
Total	3.20 (1.04)	2.92 (1.08)	3.05 (0.75)	2.87 (1.12)	3.34 (1.10)	

Therefore, using gender as the more-essentialized condition and major division as the less-essentialized condition seemed to have the least drawbacks. Although a paired-samples t-test showed no significant differences in overall perceived essentialism between genders and major divisions ($t(42) = 0.575, p = 0.57$), the groups did differ significantly on naturalness ($t(42) = 2.928, p < .01$). Past studies have also found that people perceive gender as one of the most essentialized categories (Haslam et al., 2000). It is possible that the political climate of the campus, which emphasizes the non-essentialism of gender in order to validate students who do not identify along the gender binary, created a social desirability bias, which caused participants to report less perceived essentialism for gender. Students at Oberlin may still have implicit perceptions of gender as being more essentialized. Unfortunately, these types of implicit attitudes are difficult to measure. If students do hold the implicit belief that gender is essentialized, then the results of the study should be reliable.

Method

Participants

Participants totaled 67 (*mean age* = 19.49, *SD* = 1.36) undergraduate students at a liberal arts college in the Midwest. Some participants ($n = 14$) were recruited from an introductory psychology course and received course credit in return for their participation. The rest of the participants ($n = 53$) were recruited by email and public advertisements, and received \$8 in

return for their participation. All participants were over the age of 18, consented to participation, and were allowed to withdraw from the study at any time.

Materials and Procedure

The study was advertised as a survey to gauge student reactions to unequal grade inflation between groups on campus. During experimental sessions, groups of one to ten participants completed online surveys in a computer lab with the experimenter in the next room. All materials were hosted on the web-based survey platform *Qualtrics*, and participant responses were self-paced. The study began with participants answering questions about perceived essentialism of various groups, followed by just-system beliefs, and then demographic information, after which the computer program presented the relative deprivation manipulation. After the manipulation, participants reported their affective and cognitive responses to the deprivation, reported their willingness to engage in collective action, and finally completed a self-affirmation exercise intended to elevate their moods before leaving the lab.

Perceived essentialism. In the first part of the survey, participants responded to five items meant to uncover the perceived essentialism of nine groups: students at the college itself, students on other college campuses, males, females, natural science students, social science students, humanities students, liberals, and conservatives. The items were identical to those used in the pilot study, except for the use of conservatives and liberals instead of Democrats and Republicans. The items asked about the perceived discreteness, naturalness, informativeness, inherence, and groupness of each of these groups on a five-point Likert scale (see Appendix A). The items were selected from a series of questions included in other studies that measured the perceived essentialism of various groups (Demoulin et al., 2006; Haslam et al., 2000).

Just-system beliefs. A group of six items measured each participant's belief that the world is fair, in general. On a seven-point Likert scale, participants indicated how much they agreed with statements such as, "Overall, the world is a balanced place." These items were part of a system justification scale established in a past study (Kay & Jost, 2003). The scale in the current study had good reliability, $\alpha = 0.778$.

Demographics and relative deprivation manipulation. Each participant provided their age, number of semesters spent at college so far, gender, race or ethnicity, major division or intended major division, political affiliation, and grade point average. The demographic information helped determine which manipulation each participant was shown (described more fully below). Prior to seeing the manipulation, text told the participants that the program was analyzing the information that they provided and comparing it to the information that the researchers already had. To make the cover story more believable, a loading bar was displayed for 4 seconds before the output, to imply that the program needed time to analyze the data. The experimental manipulation page itself said:

"Based on our previous research, we have found that there are differences in GPA between certain groups. We believe that differences in GPA between groups may be due to some unconscious bias that happens when grading assignments. Below is information about GPAs based on recently collected data. No other groups that you identified with had differences greater than +/-0.05 points. [In-group members] have a -0.52 point GPA compared to [out-group members], on average."

If participants provided their own GPA in the demographics section, the output also said, "You have a +0.1 point GPA compared to the average of Oberlin students," in order to avoid feelings of individual relative deprivation. The format of the manipulation was adapted from a study that

was intended to make individuals feel egoistic deprivation in regard their incomes, relative to similar others (Callan, Shead, & Olson, 2011).

The survey program randomly assigned half of the participants into the more-essentialized gender condition, in which they learned that students of their gender had lower grade point averages than students of the opposite gender. The other half of participants were randomly assigned to the less-essentialized major division condition, in which they learned that students in their major division had lower grade point averages than students in the other major divisions. As a manipulation check, the participants indicated whether this output stated that a group that they identify with had a GPA that was much higher than, approximately equal to, or much lower than a group that they do not identify with.

Responses to relative deprivation: injustice, angry resentment, and prejudice. After the manipulation, a series of items measured the intensity of the feelings evoked by the relative deprivation. All of the items were on a seven-point Likert scale, except for one open-ended question, which asked, “What are some potential negative outcomes of one group leaving Oberlin with a lower GPA than another group?” Seventeen items assessed how fair and legitimate participants perceived the situation to be, as well as their sense of entitlement to a high grade point average. The injustice section included items such as, “The average grades of [in-group members] are fair” and “[In-group members] deserve their low GPAs.” The items were adapted from a few past studies (Smith et al., 2008; van den Bos, van Veldhuizen, & Au, 2015; Kawakami & Dion, 1993; Feather & Nairn, 2005). The scale in the current study had good reliability, $\alpha = 0.907$. Fourteen items assessed how angry and resentful participants were about the situation. The angry resentment section included items such as, “When I think about [in-group members’] average grades, I feel angry” and “I resent the current grading system.”

These items were also adapted from a combination of a few studies (Feather & Nairn, 2005; Simon & Ruhs, 2008; Simon, Reichert, & Grabow, 2013; Osborne & Sibley, 2013; Smith et al., 2008). The scale in the current study had good reliability, $\alpha = 0.915$. Additionally, seven items measured participants' prejudice for groups in their manipulation. Three of these items, such as "Compared to before I learned about unequal grade inflation, I will be less friendly to [out-group members]," were taken from a past study (Feather & Nairn, 2005). The other four items asked about liking and perceived competence of in- and out-group members. These were based more loosely on past prejudice research. The seven questions were divided into two scales, one for prejudice toward the out-group, and one for in-group bias. Both scales in the current study had good reliability, with out-group prejudice $\alpha = 0.696$, and in-group bias $\alpha = 0.748$. All items from the scales were randomly ordered once and held constant for all participants.

Collective action. To measure collective action, participants first read the text: "Within the next couple of weeks, some students are planning to hold a meeting to address this unequal grade inflation. During the meeting, the group will discuss potential root causes of the GPA variation, negative outcomes of it, and possible tactics to combat it." Participants reported how likely they would be to attend this meeting, on a six-point Likert scale.

Participants answered four items meant to measure collective efficacy, or how effective they believed that action from their in-group would be, all of which were on a seven-point Likert scale. They reported how much they agreed with statements such as, "If we work together as a group, we can successfully stop this process of unequal grade inflation." These items were adapted from a couple of past studies (Simon et al., 2013; Smith et al., 2008). The scale in the current study had good reliability, $\alpha = 0.702$.

The survey then told the participants that the students organizing the meeting wanted some feedback about possible strategic actions that the movement members could take. A list of 20 action tactics was provided (see Appendix B), and the participants reported on how effective they believed the tactics would be, how much they approved of the tactics, whether or not they would be willing to participate in the tactics, and if they had participated in the tactics in the past (Walker & Mann, 1987). Effectiveness, approval, and willingness were all rated on a five-point Likert scale.

A separate pilot study was conducted to create a baseline of the perceived aggressiveness of the collective action tactics used in the main study. A survey was sent by email to 100 students randomly selected from the school directory, and 16 participants filled out the survey. Participants reported the perceived aggressiveness and the perceived effectiveness of the tactics on a ten-point Likert scale. Mean aggressiveness scores for the 20 collective action tactics ranged from 1.82 to 9.59. A tertiary split on the tactics divided them into three groups: low aggression, medium aggression, and high aggression (see Table 3).

Table 3

Mean Aggressiveness Scores for Collective Action Tactics

Group	Collective action tactic	<i>M</i>	<i>SD</i>
Low aggression	Helping victimized group members improve their own situations.	1.82	1.38
	Displaying a sticker or pin in support of the movement.	2.18	1.59
	Notifying local media sources.	2.81	1.76
	Notifying national media sources.	3.12	1.54
	Putting up posters or handing out leaflets.	3.12	2.21
	Holding a sit-in in private space.	3.47	2.53
Medium aggression	Writing a petition.	3.53	1.77
	Writing protest letters.	3.71	2.47
	Not engaging in the movement.	3.76	2.75
	Posting on social media.	3.88	2.34
	Holding a sit-in in public space.	4.00	2.24
	Lobbying people.	4.27	2.34
	Holding a walk-out.	4.29	2.76
High aggression	Recommend victimized group members improve their own situations.	4.50	3.43

Going on strike.	4.65	2.47
Holding a protest march or rally.	4.76	2.61
Drawing graffiti slogans or other information on public walls.	5.76	1.86
Sabotaging the situation of those in a position of privilege.	7.06	2.08
Damaging property.	8.53	1.84
Organizing a violent demonstration.	9.59	0.87

Self-affirmation and debriefing. The next part of the survey was a self-affirmation exercise meant to resolve any negative feelings evoked by the relative deprivation manipulation (Cohen, Aronson, & Steele, 2000). Participants viewed a list of characteristics and values and chose one that was most important to them. They also wrote an explanation about why this value was important to them and a about time that it played an important role in their life.

Finally, the participants read a debriefing that explained that the situation was fabricated, and that the researchers do not know of any systematic grade inflation at the college. The experimenter was available to address any questions or concerns.

Results

Prior to analysis, six participants were removed from the dataset for expressing suspicion that the grade point averages given in the manipulation were fake. Three more participants were removed for completing a survey in the political affiliation condition, which was later removed as a condition.

Results of the perceived essentialism questions for the main study sample were similar to the results from the pilot study. A repeated measures ANOVA revealed no significant differences in the five perceived essentialism questions between the nine groups. However, like in the pilot, a paired samples t-test showed that genders received significantly higher naturalness scores than major divisions (gender: $M = 2.96$, $SD = 1.24$; major: $M = 2.31$, $SD = 1.03$; $t(57) = 3.236$, $p < .01$). Significance for this test, as well as for all other analyses in the present study were based on an *alpha* level of .05.

In addition to the analyses that were done for the pilot results, some analyses on the essentialism data for the main study explored if the perceived essentialism of certain groups varied by group membership. Two independent samples t-tests revealed that participants who identified as male and participants who identified as female perceived approximately the same amount of essentialism of both males and females (see Table 4). A series of independent sample t-tests also investigated if members of different majors reported different perceived essentialism scores for the major divisions (see Table 5). For the most part, there were no significant differences found. There were some significant differences between natural science and social science majors. Natural science majors perceived natural science students ($t(25) = 3.07, p < .01$), humanities students ($t(25) = 2.07, p = .05$), natural and social science students ($t(25) = 2.55, p = .02$), and natural science and humanities students ($t(25) = 2.68, p = .01$) as significantly more essentialized than social science students perceive them to be. Additionally, natural science students perceived natural science students ($t(25) = 3.12, p < .01$), natural and social science students ($t(25) = 2.61, p = .02$), and natural science and humanities students ($t(25) = 2.62, p = .02$) as significantly more essentialized than social science and humanities double majors perceived them to be. These trends do match the general essentialism scores of the major divisions. For the total sample, natural science students were rated as significantly more essentialized than humanities students ($t(57) = 3.18, p < .01$), and humanities students were rated as significantly more essentialized than social science students ($t(57) = -3.02, p < .01$).

Table 4

Mean Perceived Essentialism Scores for Genders

	Essentialism of Males		Essentialism of Females	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Males	2.89	0.90	2.89	0.90
Females	2.75	0.61	2.81	0.57

Table 5

Mean Perceived Essentialism Scores for Major Divisions

	Perceived Essentialism Rating						
	<i>n</i>	Natural Science <i>M (SD)</i>	Social Science <i>M (SD)</i>	Humanities <i>M (SD)</i>	Natural and Social Science <i>M (SD)</i>	Natural Science and Humanities <i>M (SD)</i>	Social Science and Humanities <i>M (SD)</i>
Natural Science	15	3.56 (0.49)	3.17 (0.52)	3.25 (0.53)	3.37 (0.47)	3.41 (0.49)	3.21 (0.51)
Social Science	12	3.00 (0.44)	2.87 (0.39)	2.87 (0.42)	2.93 (0.39)	2.90 (0.41)	2.87 (0.40)
Humanities	9	3.13 (0.68)	3.07 (0.74)	3.13 (0.75)	3.10 (0.71)	3.13 (0.71)	3.10 (0.74)
Natural and Social Science	5	2.84 (0.50)	2.80 (0.84)	2.96 (0.93)	2.82 (0.67)	2.90 (0.70)	2.88 (0.88)
Natural Science and Humanities	4	3.10 (0.53)	2.85 (0.30)	3.00 (0.49)	2.98 (0.38)	3.05 (0.51)	2.93 (0.38)
Social Science and Humanities	12	2.92 (0.58)	2.77 (0.59)	2.83 (0.58)	2.84 (0.58)	2.88 (0.56)	2.80 (0.58)

The main hypothesis that higher perceived essentialism of groups involved in inequality would be associated with a more intense experience of relative deprivation was not definitively supported by the collected data. Perceived essentialism of the in-group involved in the manipulation was not a meaningful covariate for any of the following ANOVAs, which suggests that perceived essentialism of groups cannot explain variance in the experiences of relative deprivation. Other potential covariates were also tested in analyses of the main dependent variables, but none contributed significantly. Belief in a just world was not a meaningful covariate for any of the analyses, and sadness was not a meaningful covariate for willingness to engage in collective action. The two variables were expected to act as covariates because of findings from past studies (Osborne & Sibley, 2013; Smith et al., 2008).

To compare the scale of injustice between conditions, a 2 x 2 (essentialism condition: high vs. low x gender: male vs. female) ANOVA was run. A significant main effect of gender was found, in which females reported more of a sense of injustice and deservingness than males. However, this effect is better explained by a significant condition by gender interaction (see Tables 6 and 7, Figure 1). To better understand this interaction, a series of independent sample t-tests were run. The t-tests showed that males in the gender condition reported significantly less sense of injustice than males in the major condition ($t(19) = 4.21, p < .01$), while females in the gender condition reported significantly more sense of injustice than females in the major condition ($t(33) = -4.85, p < .01$). Also, in the major condition, males and females reported an approximately equal sense of injustice, but in the gender condition, females reported significantly more sense of injustice than males ($t(29.94) = -8.13, p < .01$).

Table 6

Descriptive Statistics for Main Relative Deprivation Dependent Variables

Condition	Gender	n	Sense of injustice		Angry resentment		Out-group prejudice		In-group bias		Collective efficacy		Attend meeting	
			M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Major	Males	8	4.64	0.83	3.75	1.14	2.45	0.94	6.00	0.60	4.31	0.94	3.25	1.49
	Females	16	4.10	0.59	3.72	0.96	1.88	0.91	6.13	0.74	4.50	0.74	3.19	1.28
	Total	24	4.28	0.71	3.73	1.00	2.07	0.94	6.08	0.69	4.44	0.80	3.21	1.32
Gender	Males	13	3.44	0.49	2.58	0.84	1.60	0.57	5.65	1.28	3.87	1.56	2.38	1.19
	Females	19	5.23	0.76	5.13	0.89	2.78	0.80	6.24	1.05	4.72	0.92	4.32	1.29
	Total	32	4.50	1.11	4.09	1.53	2.30	0.92	6.00	1.16	4.38	1.27	3.53	1.57
Total	Males	21	3.90	0.86	3.03	1.10	1.92	0.83	5.79	1.07	4.04	1.35	2.71	1.35
	Females	35	4.71	0.89	4.49	1.15	2.37	0.95	6.19	0.91	4.62	0.84	3.80	1.39
	Total	56	4.41	0.95	3.94	1.33	2.20	0.93	6.04	0.98	4.40	1.09	3.39	1.46

Table 7

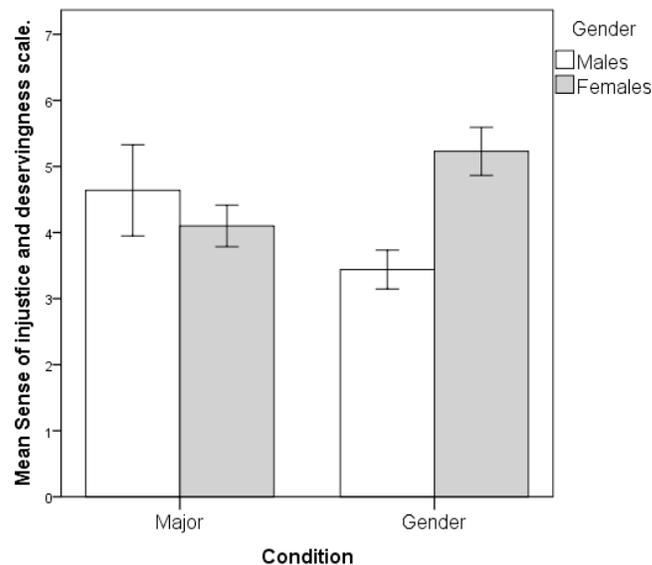
Results of ANOVAs for Main Relative Deprivation Dependent Variables

Source		df	F	η^2	p
Sense of injustice	Condition	1	0.03	< .01	.85
	Gender	1	11.03	.18	< .01
	Condition * Gender	1	38.41	.43	< .01
	Error	52	(0.45)		

Angry resentment	Condition	1	0.20	< .01	.66
	Gender	1	22.90	.31	< .01
	Condition * Gender	1	23.89	.32	< .01
	Error	52	(0.88)		
Out-group prejudice	Condition	1	0.01	< .01	.92
	Gender	1	1.80	.03	.19
	Condition * Gender	1	14.74	.22	< .01
	Error	52	(0.65)		
In-group bias	Condition	1	0.18	< .01	.67
	Gender	1	1.64	.03	.21
	Condition * Gender	1	0.69	.01	.41
	Error	52	(0.96)		
Collective efficacy	Condition	1	0.14	< .01	.71
	Gender	1	3.05	.06	.09
	Condition * Gender	1	1.25	.02	.27
	Error	52	(1.13)		
Attend meeting	Condition	1	0.13	< .01	.72
	Gender	1	6.57	.11	< .01
	Condition * Gender	1	7.48	.13	< .01
	Error	52	(1.68)		

Note. Values enclosed in parentheses represent mean square errors.

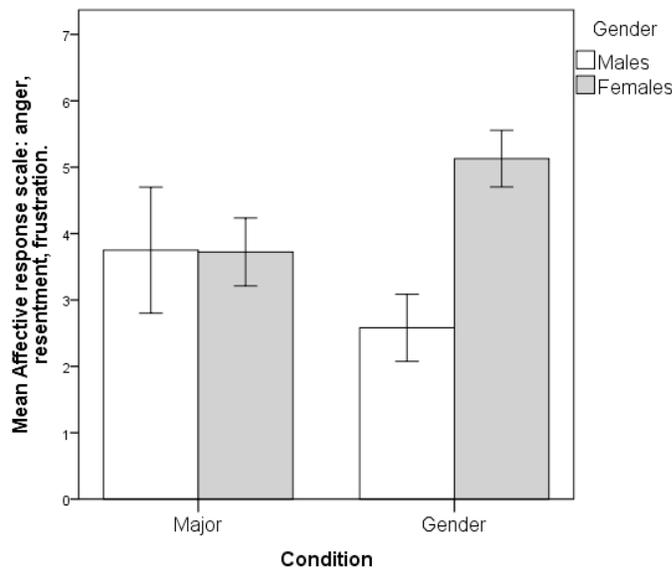
Figure 1. Sense of injustice condition by gender interaction. Error bars represent 95% confidence interval.



To compare the scale of anger and resentment between conditions, a 2 x 2 (essentialism condition: high vs. low x gender: male vs. female) ANOVA was run. A significant main effect of

gender was found, in which females reported more anger, resentment, and frustration than males. However, this effect is better explained by the significant condition by gender interaction (see Tables 6 and 7, Figure 2). To better understand this interaction, a series of independent sample t-tests were run. The t-tests showed that males in the gender condition reported significantly less angry resentment than males in the major condition ($t(19) = 2.71, p = .01$), while females in the gender condition reported significantly more angry resentment than females in the major condition ($t(33) = -4.50, p < .01$). Also, in the major condition, males and females reported approximately equal angry resentment, but in the gender condition, females reported significantly more angry resentment than males ($t(30) = -8.15, p < .01$).

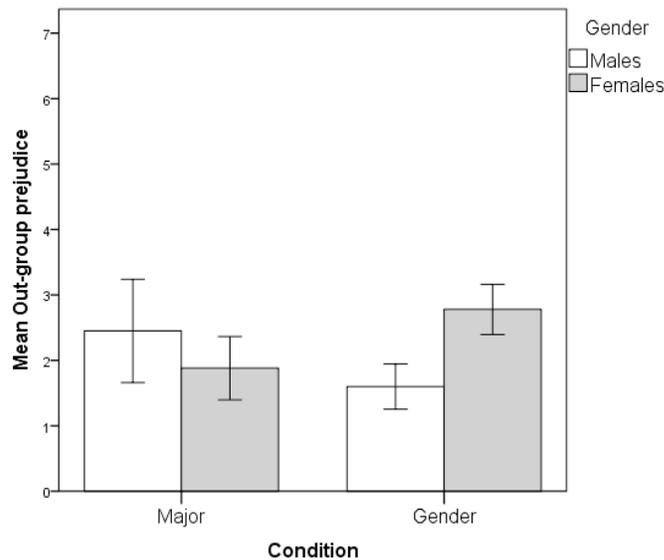
Figure 2. Angry resentment condition by gender interaction. Error bars represent 95% confidence interval.



To compare prejudice against the out-group between conditions, a 2 x 2 (essentialism condition: high vs. low x gender: male vs. female) ANOVA was run. Though no significant main effects were found, the analysis did reveal a significant condition by gender interaction (see Tables 6 and 7, Figure 3). To better understand this interaction, a series of independent sample t-

tests were run. The t-tests showed that that males in the gender condition reported significantly less out-group prejudice than males in the major condition ($t(19) = 2.59, p = .02$), while females in the gender condition reported significantly more out-group prejudice than females in the major condition ($t(33) = -3.08, p < .01$). Also, in the major condition, males and females reported approximately equal out-group prejudice, but in the gender condition, females reported more out-group prejudice than males ($t(30) = -4.58, p < .01$).

Figure 3. Out-group prejudice condition by gender interaction. Error bars represent 95% confidence interval.

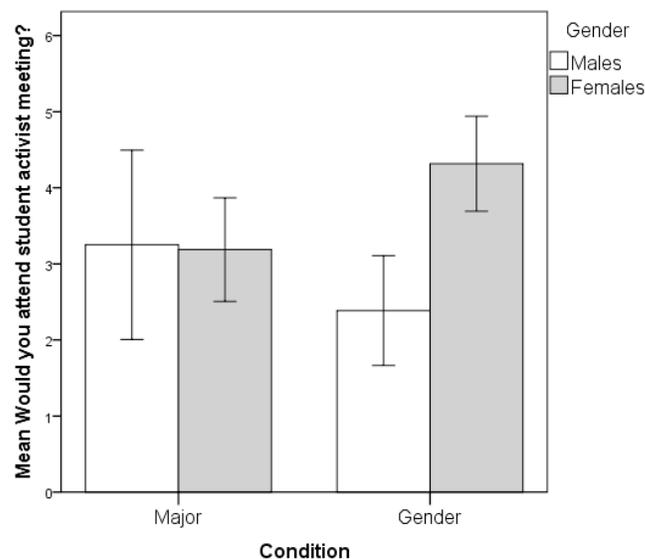


To compare the scale of bias toward the in-group between conditions, a 2 x 2 (essentialism condition: high vs. low x gender: male vs. female) ANOVA was run. No significant main effects or interactions were found (see Tables 6 and 7).

To compare perceived collective efficacy of in-group between conditions, a 2 x 2 (essentialism condition: high vs. low x gender: male vs. female) ANOVA was run. No significant main effects or interactions were found (see Tables 6 and 7).

To compare interest in collective action between conditions, a 2 x 2 (essentialism condition: high vs. low x gender: male vs. female) ANOVA was run on participants' reports of the likelihood that they would attend a student activist meeting. A significant main effect of gender was found, in which females reported more interest in attending the meeting than males. However, this effect is better explained by the significant condition by gender interaction (see Tables 6 and 7, Figure 4). To better understand this interaction, a series of independent sample t-tests were run. The t-tests showed that, though males in the major and gender condition reported an approximately equal likelihood of attending the meeting, females in the gender were significantly more likely to attend the meeting than females in major condition ($t(33) = -2.59, p = .01$). Also, in the major condition, males and females reported approximately equal likelihood of attending the meeting, but in the gender condition, females reported a significantly higher likelihood of attending ($t(30) = -4.28, p < .01$).

Figure 4. Interest in collective action condition by gender interaction. Error bars represent 95% confidence interval.



To test consistency between the different reported experiences of relative deprivation, a series of bivariate correlations were run. As anticipated, many of the correlations between sense of injustice, angry resentment, prejudice against the out-group, in-group bias, collective efficacy, and interest in collective action were significant and positive (see Table 8).

Table 8

Correlations between Main Relative Deprivation Dependent Variables

	Sense of injustice	Angry resentment	Out-group prejudice	In-group bias	Collective efficacy
Sense of injustice	–				
Angry resentment	.75**	–			
Out-group prejudice	.55**	.44**	–		
In-group bias	.23	.35**	-.21	–	
Collective efficacy	.25	.37**	.13	.16	–
Attend meeting	.52**	.70**	.15	.33*	.33*

Note. *p < .05 **p < .01.

A political engagement score for each participant was calculated by summing the number of collective action tactics out of 18 that they reported having done in the past. Depending on the collective action tactic, past political engagement was sometimes correlated with anticipated effectiveness, approval, and/or willingness to engage in the tactic for this movement (see Table 9). Past political engagement was a meaningful covariate for the repeated measures ANOVAs comparing approval and willingness ratings for the low, medium, and high aggression tactics across conditions, though it was not significant for the repeated measures ANOVA comparing effectiveness ratings.

Table 9

Correlations between Collective Action Questions

Action		Past engagement	Effectiveness	Approval
Tutor students	Past engagement	–		
	Effectiveness	.12	–	
	Approval	.36**	.51**	–
	Willingness	.30**	.49**	.49**
Display sticker or pin	Past engagement	–		

	Effectiveness	.34**	–	
	Approval	.53**	.57**	–
	Willingness	.47**	.59**	.64**
Notify local media	Past engagement	–		
	Effectiveness	.15	–	
	Approval	.13	.63**	–
	Willingness	.17	.43**	.55**
Notify national media	Past engagement	–		
	Effectiveness	.06	–	
	Approval	-.06	.63**	–
	Willingness	.05	.54**	.71**
Posters or leaflets	Past engagement	–		
	Effectiveness	.09	–	
	Approval	.28*	.59**	–
	Willingness	.33*	.52**	.65**
Sit-in private space	Past engagement	–		
	Effectiveness	.13	–	
	Approval	.28*	.73**	–
	Willingness	.31*	.77**	.76**
Write or sign petition	Past engagement	–		
	Effectiveness	.04	–	
	Approval	.21	.53**	–
	Willingness	.30*	.52**	.74**
Write protest letters	Past engagement	–		
	Effectiveness	.16	–	
	Approval	.33*	.59**	–
	Willingness	.27*	.28*	.68**
Do nothing	Past engagement	–		
	Effectiveness	–	–	
	Approval	–	.65**	–
	Willingness	–	.41**	.70**
Post on social media	Past engagement	–		
	Effectiveness	.12	–	
	Approval	.22	.57**	–
	Willingness	.33*	.43**	.75**
Sit-in in public space	Past engagement	–		
	Effectiveness	.16	–	
	Approval	.29*	.74**	–
	Willingness	.33*	.77**	.78
Lobby people	Past engagement	–		
	Effectiveness	-.02	–	
	Approval	.12	.53**	–
	Willingness	.13	.39**	.74**
Walk-out	Past engagement	–		
	Effectiveness	.41**	–	
	Approval	.56**	.71**	–
	Willingness	.63**	.65**	.78**
Recommend others pick easier major	Past engagement	–		

	Effectiveness	.46**	–	
	Approval	.42**	.68**	–
	Willingness	.53**	.52**	.69**
Strike	Past engagement	–		
	Effectiveness	.09	–	
	Approval	.41**	.55**	–
	Willingness	.33*	.46**	.75**
Protest march or rally	Past engagement	–		
	Effectiveness	.16	–	
	Approval	.23	.63**	–
	Willingness	.25	.62**	.73**
Graffiti	Past engagement	–		
	Effectiveness	.23	–	
	Approval	.49**	.66**	–
	Willingness	.64**	.51**	.89**
Sabotage others	Past engagement	–		
	Effectiveness	-.05	–	
	Approval	-.05	.47**	–
	Willingness	-.04	.36**	.91**
Damage property	Past engagement	–		
	Effectiveness	.05	–	
	Approval	.34**	.48**	–
	Willingness	-.06	.32*	.76**
Violent demonstration	Past engagement	–		
	Effectiveness	–	–	
	Approval	–	.49**	–
	Willingness	–	.46**	.83**

Note. *Do nothing* was not included on the list of past actions in the survey. No participants reported having engaged in a *violent demonstration* in the past.

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

Three repeated measures ANOVAs were run on the three sets of collective action questions: anticipated effectiveness of actions, approval of actions, and willingness to engage in actions (see Tables 10, 11, 12, and 13). All three ANOVAs revealed a significant main effect for the aggressiveness of actions. Participants rated low aggression actions as the most effective, most approved of, and were most willing to engage in, followed by medium aggression actions, and high aggression actions were rated as least effective, least approved of, and were least willing to engage in. Two of the ANOVAs also revealed an aggressiveness by gender interaction

that was marginally significant for approval of tactics and significant for willingness to engage in tactics (see Figures 5 and 6).

To better understand this aggressiveness by gender interaction, a series of ANOVAs were run. The tests showed that males in the major condition and males in the gender condition reported approximately equal approval of low, medium, and high aggression tactics. However, females in the gender condition reported marginally more approval of low aggression tactics ($F(1, 32) = 3.84, p = .06$), marginally more approval of medium aggression tactics ($F(1, 32) = 3.58, p = .07$), and significantly more approval of high aggression tactics ($F(1, 32) = 4.90, p = .03$) than females in the major condition. Also, in the major condition, males and females reported approximately equal approval of low, medium, and high aggression tactics. But, in the gender condition, females reported significantly more approval of low aggression tactics ($F(1, 29) = 5.22, p = .03$) than males. Both genders reported approximately equal approval of medium and high aggression tactics.

Also, males in the major condition and males in the gender condition reported approximately equal willingness to engage in low, medium, and high aggression tactics. However, females in the gender condition reported significantly more willingness to engage in low aggression tactics ($F(1, 32) = 4.96, p = .03$) and medium aggression tactics ($F(1, 32) = 4.16, p = .05$) than females in the major condition. Females in both conditions reported approximately equal willingness to engage in high aggression tactics. Also, in the major condition, males and females reported approximately equal willingness to engage in low, medium, and high aggression tactics. But, in the gender condition, females reported significantly more willingness to engage in low aggression tactics ($F(1, 29) = 11.87, p < .01$) and medium aggression tactics

($F(1, 29) = 4.90, p = .04$) than males. Both genders reported approximately equal willingness to engage in high aggression tactics.

Though the differences were not significant, females in the gender condition rated low, medium, and high aggression tactics as more effective compared to females in the major condition, while males in both conditions reported the tactics as approximately equally effective.

Table 10

Descriptive Statistics for Effectiveness Ratings of Collective Action Tactics

Condition	Gender	<i>n</i>	Effectiveness of tactics					
			Low aggression		Medium aggression		High aggression	
			<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Major	Males	8	3.21	0.67	2.88	0.46	1.71	0.62
	Females	16	3.48	0.52	3.09	0.42	1.61	0.65
	Total	24	3.39	0.57	3.02	0.44	1.64	0.63
Gender	Males	13	3.03	1.01	2.71	0.94	1.45	0.44
	Females	19	3.60	0.48	3.22	0.41	1.67	0.38
	Total	32	3.36	0.78	3.01	0.71	1.58	0.41
Total	Males	21	3.1	0.88	2.78	0.78	1.55	0.52
	Females	35	3.54	0.50	3.16	0.41	1.64	0.51
	Total	56	3.38	0.69	3.02	0.60	1.61	0.51

Table 11

Descriptive Statistics for Approval Ratings of Collective Action Tactics

Condition	Gender	<i>n</i>	Approval of tactics					
			Low aggression		Medium aggression		High aggression	
			<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Major	Males	8	3.58	0.86	3.13	0.61	1.73	0.44
	Females	16	3.70	0.68	3.33	0.60	1.54	0.52
	Total	24	3.66	0.73	3.26	0.59	1.60	0.50
Gender	Males	13	3.37	1.09	3.24	0.96	1.77	0.81
	Females	19	4.10	0.46	3.68	0.47	1.99	0.75
	Total	32	3.80	0.84	3.50	0.73	1.90	0.77
Total	Males	21	3.45	0.99	3.20	0.83	1.76	0.68
	Females	35	3.91	0.60	3.52	0.55	1.78	0.69
	Total	56	3.74	0.79	3.40	0.68	1.77	0.68

Table 12

Descriptive Statistics for Willingness Ratings of Collective Action Tactics

			Willingness to engage in tactics					
			Low aggression		Medium aggression		High aggression	
Condition	Gender	<i>n</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Major	Males	8	3.08	0.86	2.80	0.60	1.63	0.53
	Females	16	3.25	0.87	2.96	0.60	1.39	0.38
	Total	24	3.19	0.85	2.91	0.59	1.47	0.44
Gender	Males	13	2.58	1.29	2.66	1.05	1.53	0.84
	Females	19	3.84	0.64	3.39	0.58	1.72	0.77
	Total	32	3.33	1.13	3.09	0.87	1.64	0.79
Total	Males	21	2.77	1.15	2.71	0.89	1.57	0.72
	Females	35	3.57	0.80	3.19	0.62	1.57	0.64
	Total	56	3.27	1.01	3.01	0.76	1.57	0.66

Table 13

Results of Repeated-Measures ANOVAs Comparing Ratings of Collective Action Tactics

		Source	<i>df</i>	<i>F</i>	η^2	<i>p</i>
Effectiveness	Condition		1	0.41	< .01	.53
	Gender		1	2.53	.05	.12
	Condition * Gender		1	1.68	.03	.20
	Error		51	(0.64)		
	Aggressiveness		1.56	66.46	.57	< .01
	Political engagement		1	2.60	.05	.11
	Aggressiveness*Political engagement		1.56	0.28	< .01	.70
	Aggressiveness*Condition		1.56	0.16	< .01	.80
	Aggressiveness*Gender		1.56	2.32	.04	.12
	Aggressiveness*Condition*Gender		1.56	0.01	< .01	.97
	Error (Aggressiveness)		80.31	(0.26)		
Approval	Condition		1	0.41	< .01	.52
	Gender		1	0.23	< .01	.63
	Condition * Gender		1	3.10	.06	.08
	Error		51	(0.83)		
	Aggressiveness		1.47	94.50	.65	< .01
	Political engagement		1	16.00	.24	< .01
	Aggressiveness*Political Engagement		1.47	0.59	.01	.51
	Aggressiveness*Condition		1.47	0.35	< .01	.64
	Aggressiveness*Gender		1.47	3.27	< .01	.06
	Aggressiveness*Condition*Gender		1.47	0.52	.01	.54
	Error (Aggressiveness)		75.107	(0.28)		
Willingness	Condition		1	< 0.001	< .01	.99
	Gender		1	1.30	.03	.26
	Condition * Gender		1	5.65	.10	.02
	Error		51	(1.06)		
	Aggressiveness		1.47	47.11	.48	< .01

Political engagement	1	12.88	.20	< .01
Aggressiveness*Political Engagement	1.47	0.001	< .01	.99
Aggressiveness*Condition	1.47	0.12	< .01	.82
Aggressiveness*Gender	1.47	6.18	.11	< .01
Aggressiveness*Condition*Gender	1.47	1.50	.03	.23
Error (Aggressiveness)	74.96	(0.35)		

Note. Values enclosed in parentheses represent mean square errors.

Figure 5. Approval of collective action tactics gender by aggression interaction

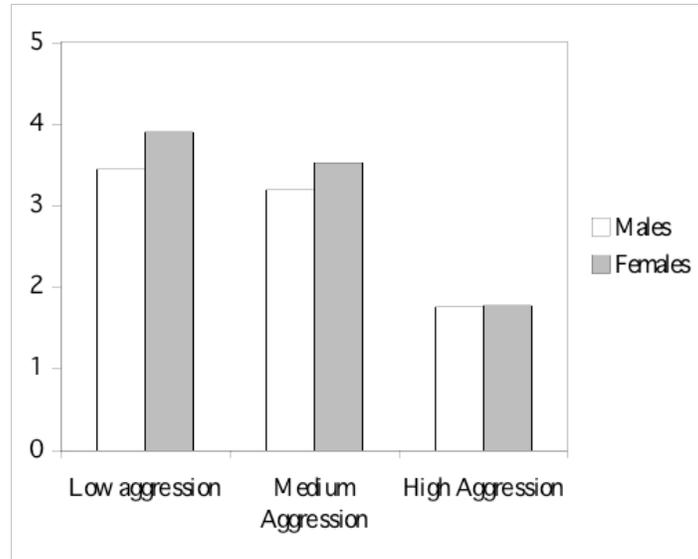
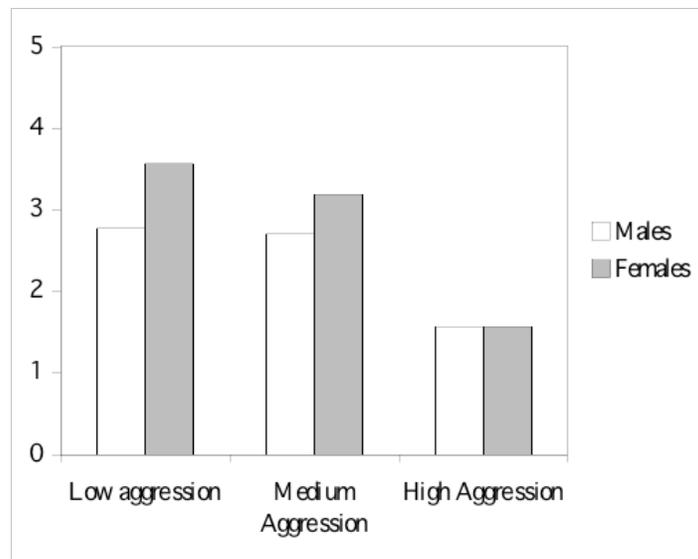


Figure 6. Willingness to engage in collective action tactics gender by aggression interaction



In addition to the two aggression by gender interactions, the three repeated measures ANOVAs had a similar condition by gender interaction pattern as the relative deprivation dependent variables. The condition by gender interaction was significant for willingness and was marginally significant for approval, but not significant for effectiveness (see Figures 7 and 8).

To better understand this interaction, a series of ANOVAs was run. The tests showed that males in the major condition and males in the gender condition reported approximately equal approval for all collective action tactics, but females in the gender condition reported significantly more approval for all collective action tactics than females in the major condition ($F(1, 32) = 5.78, p = .02$). In both conditions, males and females reported approximately equal willingness to engage in all collective action tactics. Additionally, males in the major condition and males in the gender condition reported approximately equal approval for all collective action tactics, but females in the gender condition reported significantly more willingness to engage in all collective action tactics than females in the major condition ($F(1, 32) = 6.20, p = .02$). In the major condition, males and females reported approximately equal willingness to engage in collective action. But, in the gender condition, females reported significantly more willingness to engage in collective action ($F(1, 29) = 6.38, p = .02$).

Figure 7. Approval of collective action tactics gender by condition interaction

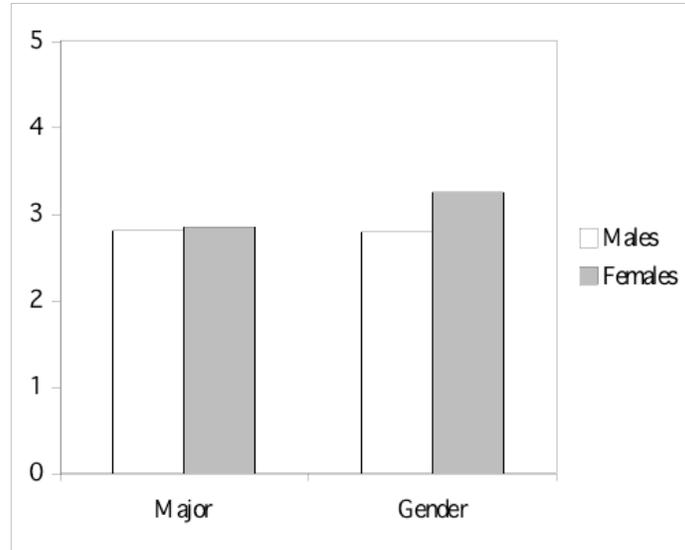
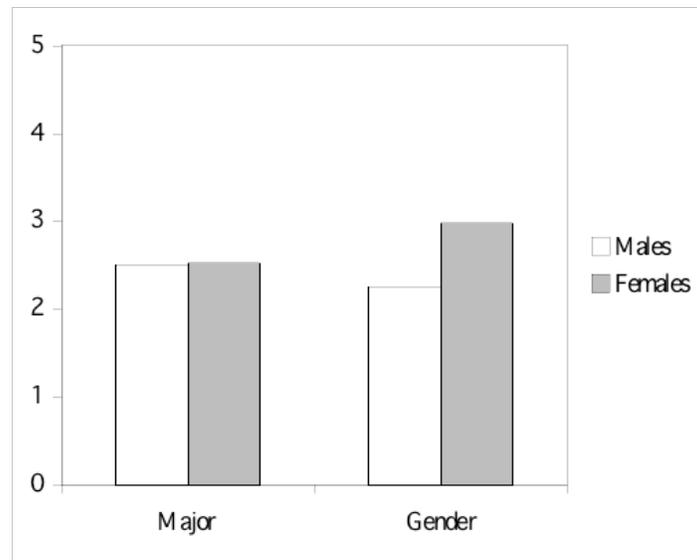


Figure 8. Willingness to engage in collective action tactics gender by condition interaction



Discussion

The results of the study showed only tentative partial support for the hypotheses. For all of the dependent variables, there were no main effects between the more- and less-essentialized conditions. Additionally, perceived essentialism did not predict participants' reactions to group relative deprivation. Therefore, it is unlikely that perceived essentialism of groups explains variance in the responses. Belief in a just world and sadness also had no effect as covariates. It is

not entirely clear why the current study failed to replicate past studies, but having a lack of statistical power due to a small sample size is one possible explanation.

Although there were no significant main effects between conditions, sense of injustice, angry resentment, prejudice against the out-group, and interest in collective action did have significant condition by gender interactions. These interactions showed that females in the gender condition reported more intense responses of relative deprivation compared to females in the major condition, while males in the gender condition reported less intense responses of relative deprivation compared to males in the major condition. These differences suggest that membership to a certain type of group has some impact on the subjective perception of objective inequality.

The pattern of interactions continued in participants' responses to the aggressiveness of various collective action tactics. Females in the gender condition reported more willingness to engage in collective action compared to females in the major condition, while males in the gender condition reported less willingness to engage in collective action. Similarly, females in the gender condition reported slightly more approval of collective action tactics compared to females in the major condition, while males in the gender condition reported slightly less approval of collective action tactics compared to males in the major condition. Though not statistically significant, females in the gender condition also reported that collective action tactics would be more effective compared to females in the major condition, while males in the gender condition reported that tactics would be less effective.

The consistent pattern of interactions found across the dependent variables suggests that, although the hypothesized differences due to essentialism were not found, the dependent variables meant to measure the experience of relative deprivation did relate to each other in

theoretically predicted ways. Similarly, many of the dependent variables were positively correlated with each other. Increased sense of injustice was positively associated with increased angry resentment, increased out-group prejudice, and increased interest in collective action. Increased angry resentment was also associated with increased out-group prejudice, increased in-group bias, increased collective efficacy, and increased interest in collective action. Increased in-group bias and increased collective efficacy were also associated with increased interest in collective action. When participants experienced a heightened cognitive, affective, or intended behavioral response to relative deprivation, they were likely to experience the other response as well.

Implications

One reason that the study failed to find that perceived essentialism impacts group relative deprivation may be the culture of gender identity on Oberlin's campus. The pilot study reflected this culture, as the results showed that participants did not rate males or females as significantly more essentialized than any of the major divisions (although they did rate them as more natural). While it is possible that Oberlin students do not perceive males and females as having deep, unchanging differences, it is also possible that social desirability bias caused participants to report lower levels of essentialism in an effort to match campus culture. This culture asserts that it is incorrect to think of gender as essentialized or binary. Another possibility is that participants implicitly believe that genders are essentialized. Unfortunately, it is impossible to know, without more research, if the lack of significant differences between conditions is because participants do not perceive genders as essentialized or because perceived essentialism has no impact on relative deprivation.

Although perceived essentialism may not have a role in the experience of relative deprivation, the differences between genders in the major and gender conditions suggest that social perception is an important influence on how individuals respond to inequality. One reason that females reported more relative deprivation outcomes than males in the gender condition may be due to the political norms at Oberlin. A vocal majority of students on campus recognize the U.S. as a patriarchal society in which males have privilege. Given this privilege, males who speak up about feeling discriminated against are generally criticized for not recognizing their societal privileges. Males may have chosen not to report experiencing feelings of relative deprivation because of these norms. In contrast, the culture of Oberlin supports members of oppressed groups when they express claims of injustice. Members of groups who have traditionally been silenced from expressing emotion, such as anger, in response to perceived injustice are encouraged to speak up in an effort to affirm that their emotions are valid.

While campus norms may have influenced responses, the discrepancies between gender reports of relative deprivation may also be due to the historical context of gender inequality. Because females have historically faced oppression, they may be more likely to recognize inequality and have more desire to reduce the inequality. It is possible that groups that have been historically oppressed experience more relative deprivation.

Given the type of inequality introduced in the experimental manipulation, it is not surprising that participants tended to support high aggression collective action tactics less than low or medium aggression tactics. Grade point average disparities do not threaten security in the same way that other inequalities, such as income and employment rates, do. Therefore, high aggression tactics are seen as unnecessary for the situation. It was also understandable that past engagement in collective action influenced approval of tactics and willingness to engage in

tactics for the movement introduced in the manipulation. It may be that having tangible experience with tactics changes an individual's perception of them for future use. However, past engagement did not influence perceived effectiveness. This finding may be because effectiveness is a more objective evaluation of collective action that many people have experience with. Individuals have the ability to evaluate the effectiveness of collective action whether or not they are personally involved.

Implications for Real-World Conflict Resolution

The findings from the present study have important implications for real-world conflicts. The study provides evidence that subjective perceptions of a situation may be more important for driving conflict than the objective circumstances of the situation. Conflicts between groups that on the surface seem to be about resource distribution may also be about social perception. In many situations of conflict, resource re-distribution may be impossible, or may not be enough to resolve the conflict. Instead, interventions that change individuals' perceptions of the groups involved in the conflict may help to resolve it. Reframing inter-group relationships and expanding the size of the in-group may help to lessen feelings of relative deprivation and lead to long-term satisfaction with life circumstances.

Limitations and Suggestions for Future Research

There are several limitations of the present study. Some of these limitations could be remedied by future studies of a similar nature. First of all, although the significant positive correlations between the main relative deprivation dependent variables suggest a relationship between the variables, it is possible that the experimental manipulation in the present study did not successfully create feelings of group relative deprivation. In the manipulation check, for example, nine participants reported that GPAs between groups were approximately equal, rather

than reporting that an in-group had a lower GPA than an out-group. However, 9 out of 58 participants is not a large proportion to respond in this way, and the participants who reported perceiving this equality were equally split between conditions. Another possibility is that participants perceived the grade inequalities on an individual level instead of a group level. This possibility is supported by the responses that multiple participants wrote in the open-ended questions about individuals needing to work harder to earn higher grades. Future studies may choose to frame the inequality in a different way to further minimize feelings of individual relative deprivation.

Because the connection between perceived essentialism and relative deprivation remains somewhat ambiguous from the current study, replication is needed. Replication especially needs to be conducted on a population without the gender politics popular at Oberlin. It is more likely that perceived essentialism would have an effect on the experience of relative deprivation for members of a population who actually report perceiving different amounts of essentialism for the groups used in the experimental manipulation. Replication of the current study should also be conducted using different essentialized groups other than gender. Additionally, future studies may choose to use the same groups across conditions, but prime the participants to perceive the groups as more or less essentialized. Using the same group would help to control for historical context of the groups.

Another limitation of the study is the issue of measuring perceived essentialism. Participants did not report the expected amounts of perceived essentialism for various groups in the survey used in the study. While it is possible that the unexpected responses were due to social desirability bias connected to the political atmosphere of Oberlin, it is also possible that the measures of perceived essentialism were flawed. Many participants provided feedback that the

questions in the perceived essentialism section of the survey were confusing and difficult to answer. Wording these questions differently or finding methods of measuring implicit perceived essentialism may increase the reliability of future studies. Additionally, in an effort to keep the survey to a reasonable length, the present study included only 5 of the 14 questions used in a previous study to measure perceived essentialism (Demoulin et al., 2006). The omission of the remaining nine questions may have affected the outcomes of the present study.

Finally, it is important to note the simplicity of the current study compared to real-world conflicts. Real-world conflicts have complex factors at play, and often develop over many years, which make them difficult to both understand and resolve. The present study intended to mimic conflict in just thirty minutes, and controlled for most factors other than the in-group involved in an inequality. Though the findings from this study may minimally generalize to real-world conflicts, they certainly do not reflect the actual experiences of individuals who engage in conflict. Nonetheless, the finding that some participants experienced more feelings of relative deprivation and favored collective action more than others on this small of a scale suggests the potential destructiveness relative deprivation could cause on a larger scale.

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Appendix A

Perceived Essentialism Questions (Haslam et al., 2000; Demoulin et al., 2006)

Discreteness: “Some categories have sharper boundaries than others. For some, membership is clear-cut, definite, and of an ‘either/or’ variety; people either belong to the category or they do not. For others, membership is more ‘fuzzy’; people belong to the category in varying degrees (*fuzzy vs. clear-cut*).”

Naturalness: “Some categories are more natural than others, whereas others are more artificial (*artificial vs. natural*).”

Informativeness: “Some categories allow people to make many judgments about their members; knowing that someone belongs to the category tells us a lot about that person. Other categories only allow a few judgments about their members; knowledge of membership is not very informative (*uninformative vs. informative*).”

Inherence: “Some categories have an underlying reality; although their members have similarities and differences on the surface, underneath they are basically the same. Other categories also have similarities and differences on the surface, but do not correspond to an underlying reality (*no underlying reality vs. underlying reality*).”

Groupness: “Some categories can qualify as ‘groups’, some categories qualify to a lesser extent (*no sense of groupness vs. sense of groupness*).”

Appendix B

List of Collective Action Tactics Used in Main Study

Go on strike by not completing any more assignments.

Protest march or rally.

Sit-in in a faculty/administrator's office.

Sit-in in an academic building.

Walk-out during class time.

Posting on social media.

Notifying Oberlin media news sources such as the *Oberlin Review*, *Oberlin Tribune*, etc.

Notifying national media news sources such as the *New York Times*, *Jezebel*, etc.

Lobby students or professors to take action.

Write a petition.

Write protest letters to the administration.

Tutor students to help improve their GPAs.

Recommend that others pick an easier major.

Put up posters or hand out leaflets around campus.

Display a sticker or pin in support of the movement.

Damage property.

Organize a violent demonstration.

Graffiti slogans or other information on public walls.

Sabotage the work of others so that they earn lower grades.

Accept the unequal grade inflation, do nothing.