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Identity Centrality Influences Group Members' Self-uncertainty, Self-esteem, and Evaluations of
Moral Deviants

by

Jeff V. Ramdass

Claremont Graduate University

2022

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APPROVAL OF THE REVIEW COMMITTEE

This dissertation has been duly read, reviewed, and critiqued by the Committee listed below, which hereby approves the manuscript of Jeff V. Ramdass as fulfilling the scope and quality requirements for meriting the degree of Doctor of Philosophy in Psychology.

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Abstract

Identity Centrality Influences Group Members' Self-uncertainty, Self-esteem, and Evaluations of

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2022

A person who identifies with a group will gain many psychological benefits from their group identification. These benefits include reduced self-uncertainty (Hogg, 2007, 2021) and increased self-esteem (Tajfel & Turner, 1986; see also Abrams & Hogg, 1988). Group members define and adhere to group norms (Turner et al., 1987) to gain the psychological benefits derived from group identification. However, not all group norms are equal. Moral norms, or norms relating to the group's morality, are used to help people view themselves as moral people via being moral group members (Ellemers et al., 2013). Moral norms are viewed differently from nonmoral group norms (Luttrell et al., 2016) and group members desire to view themselves and their groups as having high morality (Ellemers et al., 2013; Leach et al., 2007). Group members vary their evaluation of moral or nonmoral group deviants based on several relevant factors (Ramdass & Hogg, 2019; see also Marques et al., 2001; Marques et al., 1988). However, the presence of an ingroup deviant may threaten self-uncertainty or self-esteem. Furthermore, other group members' response towards a moral ingroup deviant (Asch, 1951; Festinger, 1954; see also Ditrich et al., 2019; Ditrich et al., 2017) may influence a group member's feelings of self-uncertainty or self-esteem.

Inspired by relevant research on group members' evaluations of moral and nonmoral group deviants, this dissertation investigated whether an ingroup deviant affected a group member's level of self-uncertainty or self-esteem. Study 1 hypothesized that group members would feel greater self-uncertainty or less self-esteem when faced with a multi-time moral ingroup deviant compared to a one-time moral ingroup deviant. Study 2 hypothesized that group members would feel greater self-uncertainty and less self-esteem when their group members did not punish a moral ingroup deviant compared to when they did. Both studies hypothesized a three-way interaction: effects should be stronger for group members with high identity centrality and when the moral ingroup deviant had prior ingroup prototypicality.

Study 1 ($N = 266$) had university students recruited via Amazon.com's MTurk rate their identity centrality with their university before evaluating a moral ingroup deviant who committed one or three moral violations and who either had prior high or low group prototypicality. Group members did not differ in their self-uncertainty or self-esteem based on whether the moral ingroup deviant committed one or three morally deviant acts. However, participants with high identity centrality reported lower self-esteem when evaluating a multiple-time moral ingroup deviant with prior high prototypicality. Exploratory analyses using manipulation check ratings found a similar pattern for self-uncertainty. Study 2 ($N = 297$) followed a similar research design as Study 1. However, Study 2 found that identity centrality was the largest predictor of changes to self-uncertainty, self-esteem, and evaluations of a moral ingroup deviant or their group. Overall, group members with high identity centrality may feel greater self-uncertainty or lower self-esteem in response to a moral ingroup deviant. However, group members overall self-uncertainty and self-esteem—and their evaluations of an ingroup deviant and their group—may depend on how central a group is to a group member.

Dedication

This dissertation is dedicated to my parents and sister. Thank you both for showing me how to follow my dreams and supporting me along the way. I am thankful for your love and support.

Acknowledgements

There is not enough space to acknowledge everyone who has helped me finish my PhD or helped me throughout my life. If I tried to type it out, the acknowledgments' section would be as long as the dissertation itself. I also would inevitably leave out many people who have helped me become the person that I am today.

Instead, I have three brief acknowledgments. Thank you to everyone who believed in me when I did not believe in myself. Thank you to everyone who took a chance on someone and allowed me to prove them right. Finally, thank you for everyone who I have been fortunate enough to share this part of my life journey with. If you are wondering “is Jeff thinking of me when writing this,” know that I thought of you—and am thinking of you now—as you read this. I hope I have made you proud.

“Tell everyone you love them... I love each and every one of you” (Kingston, 2021).

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CHAPTER 1

Literature Review

Groups provide their members with a structured set of norms that members can conceptualize and abide by. Group members use group identification and norms to define who they are and how others around them should think and act (Turner et al., 1987). Through group identification and membership, a person will experience reduced self-uncertainty (Hogg, 2007, 2021) and increased self-esteem (Tajfel & Turner, 1986) through the belief that they are a group member (Ellemers et al., 2013; Ellemers & van der Toorn, 2015). People who violate ingroup norms threaten the overall positivity of the ingroup identity and thus reduce the benefits associated with group identification in comparison to normative ingroup members. Furthermore, group members who violate moral norms, or norms that relate to the perception of their group's definition of morality may threaten their group more severely than nonmoral norm violators (J. M. Marques et al., 2001; Ramdass & Hogg, 2019; van der Toorn et al., 2015), because group members value moral norms more than nonmoral norms (Leach et al., 2007; Luttrell et al., 2016).

Two possible outcomes may occur when a group member acknowledges an ingroup deviant. From an uncertainty-identity theory perspective (Hogg, 2007, 2021), a group member may become more uncertain if a moral ingroup deviant exists in their group. The presence of a moral ingroup deviant may make a person think that their group's norms are unclear or inconsistent (J. M. Marques et al., 1998). Group members with high uncertainty would be *unable* to think of themselves as a moral person. Concurrently, based on social identity theory (Tajfel & Turner, 1986) and its extension into groups and morality (Ellemers et al., 2013; Ellemers & van der Toorn, 2015), a group member may experience a decrease in self-esteem because of the

acknowledgement that a moral ingroup deviant exists in their group. The acknowledgement of an moral ingroup deviant may both threaten whether the ingroup is moral and whether unlikeable group members exist in their group. Although prior researchers have identified how a group member will respond to different types of nonmoral or moral group deviants, prior research has not investigated whether the presence of a moral ingroup deviant leads a group member to experience increased self-uncertainty and decreased self-esteem.

A group member's evaluation of a moral ingroup deviant may differ based on characteristics of the moral deviant and the person who evaluates the group deviant (J. M. Marques et al., 2001; Ramdass & Hogg, 2019). Characteristics such as how often a group member morally deviates, their prior group prototypicality, and reactions from other group members to their may also influence evaluations of moral group deviants (Ditrich et al., 2017; Ditrich & Sassenberg, 2016)—especially if other group members do not enforce the violated ingroup norm (Ditrich et al., 2019; van der Toorn et al., 2015). These effects may be more pronounced for group members with high identity centrality (Cameron, 2004). Combined, the presence of a moral ingroup deviant, the prior prototypicality of the moral ingroup deviant, and reactions from other group members may influence a group member's self-uncertainty or self-esteem, their evaluations of the ingroup deviant, and their perceptions of their ingroup.

In two studies, the present research addressed three research hypotheses. First, does the presence of a moral deviant lead a group member to experience greater self-uncertainty and/or less self-esteem? Second, do other group members' reactions to moral deviation affect a group member's self-uncertainty and self-esteem and their subsequent reactions to the moral deviant or their group? Third, are reactions to a moral ingroup deviant or evaluations of a moral ingroup

deviant moderated by the group deviant's prior prototypicality and/or the identity centrality of the group member who evaluates the ingroup deviant?

People Join Groups to Feel Good About Themselves and to Reduce Self-Uncertainty

People are motivated to define who they are and differentiate themselves from others. According to social identity theory (Tajfel & Turner, 1986; Turner et al., 1987; see also Abrams & Hogg, 2010; Hogg, 2018), people identify with groups to define and evaluate themselves and others. Researchers have identified two motivations for joining and identifying with groups – self-enhancement and uncertainty reduction.¹

People have a basic need to feel good about themselves (see Alicke & Sedikides, 2007; Sedikides & Strube, 1997) and this is satisfied by identifying with prestigious, high status groups because the group's status and evaluation defines and evaluates self. This is referred to as the self-esteem hypothesis (Tajfel & Turner, 1986; also see Abrams & Hogg, 1988; Rubin & Hewstone, 1998). Relatedly, framed by the idea of morality, the behavioral regulation model (Ellemers et al., 2013) argues that people strive to view themselves as moral beings (Aquino & Reed, 2002; Dong et al., 2019), and that identifying with a group can satisfy this motivation (see also Ellemers & van der Toorn, 2015; Leach et al., 2007). People also invoke morality to evaluate other people (Brambilla et al., 2021; Brambilla & Leach, 2014) and define their groups (Ellemers et al., 2013; Koch et al., 2021; Leach et al., 2007). Either through generic norms (J. M. Marques et al., 2001) or group-specific moral norms (Ellemers et al., 2013; Ellemers & van der Toorn, 2015), identifying with a group allows people to view themselves as moral through their identification as a moral group member.

¹ Although optimal distinctiveness is a third motivation for joining a group (Brewer, 1991, 1993), optimal distinctiveness is less related to the present research.

A second motivation involves a person's self-relevant uncertainty (Hogg, 2007, 2021). Self-conceptual uncertainty motivates group identification (e.g., Grant & Hogg, 2012; Grieve & Hogg, 1999). The process of joining and identifying with a group reduces self-uncertainty through self- and social-categorization processes (Turner et al., 1987; see also Hogg, 2018). The main tenets of uncertainty-identity theory were supported by a meta-analysis investigating the relationship between self-uncertainty and group identification (Choi & Hogg, 2020). In their meta-analysis covering 4,657 participants across 35 studies, there was a meaningful relationship between uncertainty and group identification. However, the relationship depended on how uncertainty was defined or measured. The effects were stronger for social identity uncertainty, or aspects that involved a specific identity or category a person identified with (6.8% variance explained; $r = -.26$). The effects were weaker for indirect self-uncertainty (5.3% variance explained; $r = .23$) or direct self-uncertainty (2.0% variance explained; $r = .14$).

Group Members Vary Their Responses toward Group Deviants

The self-esteem hypothesis (Tajfel & Turner, 1986), the behavioral regulation model (Ellemers et al., 2013), and uncertainty identity theory (Hogg, 2007, 2021) all argue that people are motivated to identify with a group to fulfill a self-related psychological benefit. Being a group member allows for a person to gain increased self-esteem through the knowledge that the person is a moral group member (e.g., the self-esteem hypothesis and the behavioral regulation model) while reducing their self-uncertainty regarding who they are (e.g., uncertainty-identity theory). Group deviance (J. M. Marques et al., 1998) and moral deviance (Ramdass & Hogg, 2019; van der Toorn et al., 2015) may affect how a group member perceives a group (Dannals & Miller, 2017) and reduce the psychological benefits that come from group identification.

Group identification changes how we perceive and evaluate someone who commits a deviant act, and we evaluate an ingroup deviant more negatively than an outgroup deviant (J. M. Marques et al., 1998; J. M. Marques & Páez, 1994; Pinto et al., 2010). There are two social identity-based explanations for how group members evaluate ingroup deviants. The black sheep effect (J. M. Marques et al., 1988; J. M. Marques & Páez, 1994) refers to a process whereby we evaluate an unlikeable ingroup member more negatively than an unlikeable outgroup member. People do this because the former threatens group membership-mediated self-evaluation and self-esteem more strongly than the latter (Abrams & Hogg, 1988; Rubin & Hewstone, 1998; Tajfel & Turner, 1986). The subjective group dynamics model (J. M. Marques et al., 1998) focuses on the threat posed to ingroup entitativity (Blanchard et al., 2020) and the clarity of the ingroup prototype. Ingroup members who deviate from and violate ingroup norms that define the ingroup's identity and thus raise uncertainty about one's own identity and self-concept. Normative deviants who lean towards the outgroup's normative position (anti-norm deviants) pose a greater entitativity threat (blurring intergroup boundaries) and are therefore more negatively evaluated than ingroup deviants who lean away from the outgroup's normative position (pro-norm deviants). Importantly, group members are motivated to protect their group's norms from group deviants and will often vary their evaluations of a group deviant based on their group identification.

Moral Group Norms and Moral Norm Violations

In addition to group identification and norm configurations, the type of norm that a group member deviates from influences evaluations of group deviants. Overall, a person evaluates morality when thinking about themselves or others (Brambilla et al., 2021; Graham et al., 2013; Haidt, 2007; Schein & Gray, 2018). Moral norms refer to norms that relate to either how the

group defines its moral distinctiveness (Ellemers et al., 2013; Ellemers & van der Toorn, 2015) or generic principles that all groups should follow (J. M. Marques et al., 2001). Moral norms are usually stronger and more stable over time (Luttrell et al., 2016). Concurrently, group members strive to belong to groups that have high moral principles (Leach et al., 2007). Combined, people view morality differently to other aspects of their lives, have a desire to consider themselves to be moral and to be members of moral groups, and value their moral norms more strongly than nonmoral norms.

Because of morality's importance in how group members define themselves (Ellemers et al., 2013) and the concurrent desire to not have unlikeable group members in their groups (J. M. Marques & Páez, 1994; Pinto et al., 2010), group members evaluate moral deviants negatively (J. M. Marques et al., 2001). People negatively evaluate group members who consistently violate a generic or moral norm when the moral deviant is an ingroup member or were highly ingroup prototypical before being identified as an ingroup deviant (Ramdass & Hogg, 2019). People also feel threatened by fellow group members who commit a moral violation (van der Toorn et al., 2015). Group members will both devalue someone who is an immoral group member and feel threatened by the presence of a moral ingroup deviant.

However, group members' evaluations of ingroup deviants have a different pattern when the group member only deviated once. Research investigating transgression credit provided to leaders (e.g., a group member's decision to give an ingroup leader leeway when they commit deviant behaviors; Abrams et al., 2013, 2018; A. G. Marques et al., 2021), research investigating versions of moral deviance (Aguilar et al., 2017; Iyer et al., 2012; van der Toorn et al., 2015), and research investigating group members' evaluations of ingroups compared to in-category groups (Abrams et al., 2021) find that group members are more willing to forgive or less willing to

negatively evaluate an ingroup deviant if they only deviated once and did not threaten what it meant to be a group member, or if the ingroup member can think of other group members in their group who are not ingroup deviants. In a direct comparison of one-time and multiple-time moral group deviants, Ramdass and Hogg (2019) found that one-time ingroup deviants were more favorably evaluated if they were more group prototypical than if they were low in group prototypicality. In comparison, a multiple-time moral ingroup deviant was rated more negatively than a one-time moral ingroup deviant, and prior prototypicality did not buffer against negative evaluation.

Group members appear motivated to preserve a positive image of themselves and their group—a finding that is a main tenet of social identity theory (Tajfel & Turner, 1986) and was modified to focus on a positive moral image of themselves and their group (Ellemers et al., 2013). A moral ingroup deviant can threaten this motivation in two ways: moral deviance affects the ability of a person to view themselves as morally good, and harms the self-esteem of fellow group members; or a moral ingroup deviant increases uncertainty regarding whether the group has high morality. These differences in motivations may also explain why group members respond differently to an ingroup deviant depending on if they deviated once or on multiple occasions.

Other Group Members Influence Evaluations of Moral Deviants and Their Group

Researchers invoking the black sheep effect and the subjective group dynamics model have traditionally investigated evaluations of group deviants by varying aspects of the evaluator or deviant (J. M. Marques et al., 2001). However, other group-related factors may influence how a group member reacts when faced with a moral deviant. An obvious possibility is that how

fellow group members respond to a moral group deviant may affect one's evaluation of a moral deviant.

This reasoning rests on the fundamental tenet of social comparison theory—that we make social comparisons with others to determine how we should think and feel and ultimately behave (Festinger, 1954; Križan & Gibbons, 2014; Suls & Wheeler, 2000). Importantly, group members often pay most attention to making social comparisons with fellow ingroup members – “people like us” (Hogg, 2000; Hogg & Gaffney 2014 – also see Abrams et al., 1990; Spears, 2021). The reaction from other group members may activate social influence processes and lead to increased uncertainty by having other group members muddy the moral norm or decreased self-esteem from the group losing its positive distinctiveness.

This matters because other group members' reactions toward group deviants may threaten what it means to be a group member. Group members negatively evaluate group deviants when their deviant actions threaten the group. This finding has occurred in research on transgression credit with leaders (Abrams et al., 2014; A. G. Marques et al., 2021) and with moral deviance within groups (Iyer et al., 2012; van der Toorn et al., 2015). More directly, Ditrich and colleagues (Ditrich et al., 2017, 2019; Ditrich & Sassenberg, 2016) found that group members are more likely to leave a group if identity subversion occurs due to the cooccurrence of a deviant ingroup member and the lack of condemnation of that action by other group members.

Other group members' responses to moral deviants may also influence how a group member perceives their group. Groups provide positive distinctiveness for a person (Jackson et al., 1996; Tajfel & Turner, 1986) as measured through various facets such as group status, group prestige, and entitativity. The behavioral regulation model would argue that positive

distinctiveness comes from knowing that their group is morally superior to other groups (Ellemers et al., 2013). Concurrently, group members who reinforce a norm violation may increase uncertainty about their specific group or fitting in with other group members (Hogg, 2007, 2021; Wagoner et al., 2017).

The Present Research

Researchers have identified the influence of group identification on evaluations of group deviants (J. M. Marques et al., 1998; J. M. Marques & Páez, 1994). Researchers also have identified that morality matters for groups and group identification (Ellemers et al., 2013; Leach et al., 2007), that moral group norms may be held more strongly and be more relevant to how a person views themselves than nonmoral group norms (Luttrell et al., 2016), and that group members may evaluate moral norm deviants differently from nonmoral norm deviants (Ramdass & Hogg, 2019). However, research has found conflicting results in evaluations of moral group deviants. Furthermore, feedback from other group members can impact feelings of self-uncertainty or self-esteem, and change people's evaluation of a moral group deviant, or their perception of their group (Ditrich et al., 2017, 2019; Ditrich & Sassenberg, 2016).

One overarching potential explanation is that a morally deviant group member may threaten group identification by either increasing self-uncertainty through muddying the group prototype or decreasing self-esteem by reducing the positive or moral distinctiveness of their group. However, as found by Ramdass and Hogg (2019), this impact may be moderated by the identity centrality of the group member who evaluates the moral ingroup deviant, and by characteristics of the moral deviant (e.g., prototypicality or how often a morally deviant act is committed). The present research investigated this overarching hypothesis across two studies. Using the same paradigm from Ramdass and Hogg (2019), Study 1 investigated whether

participants who have higher identity centrality differed in their self-uncertainty, self-esteem, and/or evaluations of a moral deviant and/or their group based on whether the moral ingroup deviant had prior low or high prototypicality or if they committed one or multiple deviant acts. Study 2 extended the findings from Study 1 by adding the influence of group responses towards a moral deviant as a potential moderator for changes in self-uncertainty, self-esteem, or evaluations towards a moral ingroup deviant or their group. Study 2 investigated whether participants who have higher identity centrality differed based on whether the moral ingroup deviant had prior low or high prototypicality or if other group members did not or did punish the ingroup moral deviant.

CHAPTER 2

Study 1

Study 1 set out to conceptually replicate Ramdass and Hogg's (2019) Study 2 by investigating whether characteristics of the moral ingroup deviant or the evaluating group member influence evaluations of group deviants. Furthermore, Study 1 attempted to extend the findings from Ramdass and Hogg (2019) by investigating whether the presence of a moral deviant increases an evaluator's self-uncertainty or decreases their self-esteem. Participants related how central they feel their college or university identity is to them before being placed in a 2 (prior deviant prototypicality: low or high) by 2 (moral deviance frequency: once or three times) between-participants design. The following hypotheses were proposed:

H1: Group members' self-uncertainty will be higher (H1A) and/or their self-esteem will be lower (H1B) when a fellow group member morally deviates repeatedly compared to when they commit only one morally deviant act. Furthermore, group members will also negatively evaluate the moral ingroup deviant (H1C) and their group as a whole (H1D) more negatively when the deviant deviates multiple times. Additionally, group members will report that their group has less entitativity (H1E) and status and prestige (H1F) when the deviant deviates multiple times.

H2: A three-way interaction will occur. The predictions under H1 will be moderated by how group prototypical the deviant is and by how central the group identity is to the participants; such that the predictions under H1 will be accentuated where both the target's prototypicality is higher and when the participant's identity centrality is higher.

Study 1 Methods

Participants and Design

Participants ($N = 300$ initial, 266 final) were recruited from Amazon.com's Mechanical Turk (MTurk) via CloudResearch (Litman et al., 2017). A description of how participants were removed from data analyses is described in the results' section. Participants were older than traditional undergraduate students ($M = 31.29$, $SD = 10.30$) and mostly white (84%). There were 94 females and 172 males in the final sample. Participants were paid \$1.50 to complete the study and the median completion time was 6.79 minutes.

Participants met the following inclusion criteria to participate in Study 1: they were 18 years old or older, have a US-based IP address, and stated that they were currently enrolled in a post-secondary degree granting institution (e.g., college or university) within the last six months before data collection occurred. An a priori power analysis was conducted based on the effect size of the three-way interaction found in Study 2 of Ramdass and Hogg (2019). Using WebPower (version 0.5.2; Zhang & Mai, 2018), the power analysis suggested that 287 participants would be needed to detect the hypothesized effects for Study 1 ($f^2 = 0.14$, $\alpha = .05$, $power = .90$).²

Following Study 2 from Ramdass and Hogg (2019), participants rated their identity centrality with their college or university before being placed in a 2 (prior deviant prototypicality: low or high) by 2 (moral deviance amount: once or three times) between-participants design. Outcome variables included ratings of the participant's current self-uncertainty or self-esteem, evaluations of the moral group deviant, and self-report evaluations of the group's entitativity, and status and prestige.

Measures

² Cohen's f was taken from the b -weight for the three-way interaction ($b = 0.14$) in Study 2 of Ramdass and Hogg (2019) and converting it to Cohen's f using <https://www.escal.site/#>. Between the dissertation proposal and dissertation stage, <https://www.escal.site/#> removed the option to convert a b -weight to Cohen's f .

Predictor Variables. Identity centrality was operationalized by four questions used previously to measure the construct (Cameron, 2004; see also Grant & Hogg, 2012; Hains et al., 1997; Hogg et al., 1998). These questions are: “How much do you identify with your university,” “How important is your university to you,” “How central do you feel your university is to your sense of who you are,” and “How often are you aware of being a member of your university,” 1 = *not very much*, 9 = *very much*, $\alpha = .84$ (Appendix A)

Based on prior research (Ramdass & Hogg, 2019), prior deviant prototypicality and moral deviance amount were manipulated based on an experimental vignette. Participants first read a description of a prototypical student at their school. Then, participants read one of four vignettes describing a student who either committed one or three morally deviant actions and who either had high or low prior group prototypicality. Here is an example vignette for a group member who morally deviated once and had high prior prototypicality:

Jordan Smith is currently a sophomore at [your university]. Jordan has only attended [your university], and currently has a 3.2 GPA. Jordan attends and participates in many social and educational events on campus. On average, Jordan is similar to most other students at [your university].

You later find out that Jordan plagiarized their final paper in a recent class last semester. Jordan’s professor mentioned that this was the first and only time Jordan cheated in this class. Jordan did not cheat on any previous assignments.

Participants were asked three questions to check for differences in the prototypicality manipulations (e.g., “how typical is Jordan of students at your university,” $\alpha = .82$) and one question to check for differences in the cheating amount manipulations (e.g., “based on what you

read, how many times did Jordan cheat in their recent class?"). See Appendix B for all four vignettes used in Study 1.

Outcome Variables. The following outcome variables were used in Study 1.

Social identity uncertainty (Wagoner et al., 2017) measured participants' identity uncertainty related to their group identification. Social identity uncertainty is a type of self-uncertainty that focuses on an understanding of one's group prototype and what it means to be a group member. Participants were asked three questions related to their identity uncertainty: "I am uncertain about what it means to be a student at my university," "I feel uncertain about what being a student at my university stands for," and "I feel uncertain about the characteristics that define being a member of my university" (1 = *strongly disagree*, 9 = *strongly agree*). All three items were averaged together to form a single mean composite of identity uncertainty, $\alpha = .89$ (Appendix C).

Self-esteem was measured using the five positive items of the Rosenberg's Self-esteem Scale (Rosenberg, 1965). Positive-only items were included to reduce study length. These five items include statements related to the presence of positive self-esteem. Sample questions include: "on the whole, I am satisfied with myself" and "I take a positive attitude towards myself" (1 = *strongly disagree*, 9 = *strongly agree*). The five items were averaged to form a single mean composite of self-esteem, $\alpha = .84$ (Appendix D).

Following a similar process from prior research (e.g., Ramdass & Hogg, 2019), Participants assessed the moral ingroup deviant by responding to 12 semantic differential items. Six semantic differentials assessed the horizontal evaluation of the ingroup deviant, or how much the participant would want to interact with the target group deviant. Three differentials measured their morality (e.g., dishonest-honest) and three differentials measured their sociability (e.g.,

unlikeable-likeable). Six additional semantic differentials assessed the vertical evaluation of the group deviant (e.g., the group member's ability). Three of these vertical differentials measured the group deviant's agency (e.g., incompetent-competent) and three measured their assertiveness (e.g., unassertive-assertive). This framework is a synthesis of five prior frameworks used to describe evaluations towards other people and groups (Koch et al., 2021). Each semantic differential had a 9-point scale (-4 = *negative*, 4 = *positive*). Negative values indicated a negative evaluation of the moral ingroup deviant and positive values indicated a positive evaluation of the moral ingroup deviant. Post-hoc factor analyses found that the 12 semantic differentials loaded onto one factor. All 12 differentials were averaged to form a holistic rating of the target deviant, $\alpha = .95$ (Appendix E).

Participants also assessed their group by responding to 12 additional semantic differentials. These 12 differentials were the same listed above, but participants were asked to think about their university instead of the moral ingroup deviant. Like student evaluations, all 12 semantic differentials were averaged together to form a single composite evaluation of their university, $\alpha = .92$ (Appendix E).

Entitativity was measured using a three-item scale of entitativity (Blanchard et al., 2020). These items include "we are a unit," "we are a group," and "we feel like a group to me," 1 = *strongly disagree*, 9 = *strongly agree*. Items were averaged to form a mean composite entitativity score, $\alpha = .81$ (Appendix F).

Group status and prestige were measured by questions developed for the present research. Questions include: "people respect students from my university," "people think that students from my university have high status," "students from my university have a positive reputation," and "others usually admire students from my university," 1 = *strongly disagree*, 9 = *strongly*

agree. Items were averaged to form a mean composite of group status and prestige, $\alpha = .82$ (Appendix G).

Lastly, participant demographics were measured by asking participants their age, biological sex, and race. Participants were then asked to reconfirm that they paid attention throughout the study and that they met the inclusion criteria of being a university student (Appendix H).

Procedure

Participants first completed a brief check to confirm that they met the study inclusion criteria and to state that they would pay attention during the study (Rouse, 2015). Participants then rated their identity centrality before reading one of four vignettes that describes a possible moral deviant. Each vignette manipulated either the moral ingroup deviant's prior prototypicality or how much they cheated. Participants then completed the measures of self-esteem or uncertainty (counterbalanced) before assessing their rating of the student who deviated and their university overall. Participants then evaluated their university's entitativity and status and prestige (counterbalanced) before providing their demographic information. See Table 1 for descriptive statistics and correlations for all variables and see Table 2 for Cronbach's alphas and model fit statistics for all scales used in Study 1.

Table 1

Means, Standard Deviations, and Correlations for Study 1

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
1. Identity Centrality (4 items)	7.17	1.29										
2. Prototypicality Condition	-0.02	1.00	-.05									
3. Prototypicality Check Average (3 items)	6.77	1.54	.46**	.19**								
4. Cheat Condition	-0.03	1.00	.02	-.04	-.01							
5. Cheat Check Average (1 item)	2.14	0.89	.10	-.05	.12*	.56**						
6. Identity Uncertainty (3 items)	6.36	1.93	.29**	.01	.63**	-.01	.14*					
7. Self-esteem (5 items)	7.28	1.26	.83**	.02	.46**	-.01	.07	.22**				
8. Target Evaluation (12 items)	1.57	1.67	.40**	.13*	.70**	-.08	.05	.61**	.33**			
9. University Evaluation (12 items)	2.08	1.22	.69**	-.03	.39**	-.03	.11	.22**	.71**	.49**		
10. Entitativity (3 items)	7.21	1.33	.80**	.00	.42**	-.02	.11	.28**	.82**	.41**	.75**	
11. Status and Prestige (4 items)	7.15	1.27	.79**	-.02	.48**	.02	.14*	.35**	.79**	.42**	.70**	.85**

Note. Cheat Condition was coded as -1 = Cheated Once and 1 = Cheated Three Times

Prototypicality condition was coded as -1 = Low Prototypicality and 1 = High Prototypicality

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

Table 2

Cronbach's Alphas and Model Fit Information for Measures Used In Study 1

Variable	α	Chi-square	p	Robust CFI	SRMR	Robust RMSEA
Identity Centrality	.84	4.34	.114	.98	.02	.10
Identity Uncertainty	.89	0.00	-	-	-	-
Self-esteem	.84	2.34	.802	1.00	.02	.00
Target Evaluations	.95	67.46	.103	.98	.03	.04
University Evaluations	.92	65.94	.128	.98	.04	.04
Group Entitativity	.81	0.00	-	-	-	-
Status and Prestige	.82	1.78	.409	1.00	.02	.00

Note: Identity Uncertainty and group entitativity only had three items per measure.

Data Analysis Strategy

Measured variables were averaged to form mean composites for each variable upon the observance of high internal consistency within each variable. Then, to check for potential covariation, each predictor variable (e.g., identity centrality, prior prototypicality, and deviance amount) and all interactions were regressed onto participants' demographic variables. Regression analyses were used to check for covariance based on participants' age and sex. Simulated chi-square analyses investigated whether the racial breakdown of participants were evenly distributed between experimental conditions.

Hypotheses 1 and 2 were investigated using regression analyses. Following Aiken and West (1991), participants' values were mean centered before creating interaction terms. Main effects were entered at step 1, two-way interactions at step 2, and the three-way interaction at step 3.

Study 1 Results

Although 300 participants were paid and submitted data for Study 1, 286 participants provided valid data without overt evidence of non-human responses. Twenty participants were removed either for stated inattention ($n = 15$) or being an extreme multivariate outlier (e.g.,

having a Mahalanobis distance greater than 38; $n = 5$). This left 266 participants for the present analyses.

Demographic Analyses, Scale Assessment, and Univariate Normality

Demographic analyses investigated whether any demographic variable was significantly associated with any predictor variable. Regression analyses found no relationships between age and any main effect or interaction, $ps > .072$. Although regression analyses found a small relationship between age and identity centrality, $b = 0.10$, $SE = 0.04$, $p = .036$, the overall regression model was not statistically significant, $R^2 = .02$, $F(7, 258) = 0.96$, $p = .454$. Simulated chi-square tests with 2,000 bootstraps found no relationships between sex or race and any predictor variable, $ps > .500$. No demographic variables were entered as any covariates for Study 1.

Measured variables were assessed for internal consistency and structural validity. As seen in Table 2, all measures had high internal consistency (as measured through Cronbach's alphas) or evidence of structural validity (as measured through confirmatory factor analyses).

All study variables achieved univariate normality with skew and kurtosis values below ± 1.50 . As such, data were analyzed as is without any transformations.

Manipulation Checks

Manipulation checks investigated whether the moral deviance and prototypicality primes elicited the expected differences in the perception of cheating amounts and prior prototypicality. A multiple regression only found a main effect for cheating conditions, $b = 0.50$, $SE = 0.04$, $p < .001$. No two- or three-way interactions related to the manipulation check for the perception of cheating behavior.

A multiple regression found a main effect of prototypicality condition, $b = -0.64$, $SE = 0.16$, $p < .001$. However, the multiple regression also found that participants with higher centrality rated the target student as more prototypical, $b = 0.56$, $SE = 0.06$, $p < .001$. Multiple regression analyses also found a two-way interaction between prototypicality conditions and identification, $b = 0.16$, $SE = 0.06$, $p = .014$. Simple slope analyses found that participants with lower identity centrality did not differ in their perceptions of whether the target student had high or low prototypicality, $b = 0.12$, $SE = 0.12$, $p = .334$. However, participants with higher identity centrality rated the deviant as more prototypical in the high prototypical condition than in the low prototypical condition, $b = 0.52$, $SE = 0.12$, $p < .001$.

Based on these analyses, the prototypicality primes were successful in changing the perceptions of the prototypicality of the target student. However, the ability of the prototypicality primes may vary based on whether the participant had high or low identity centrality.

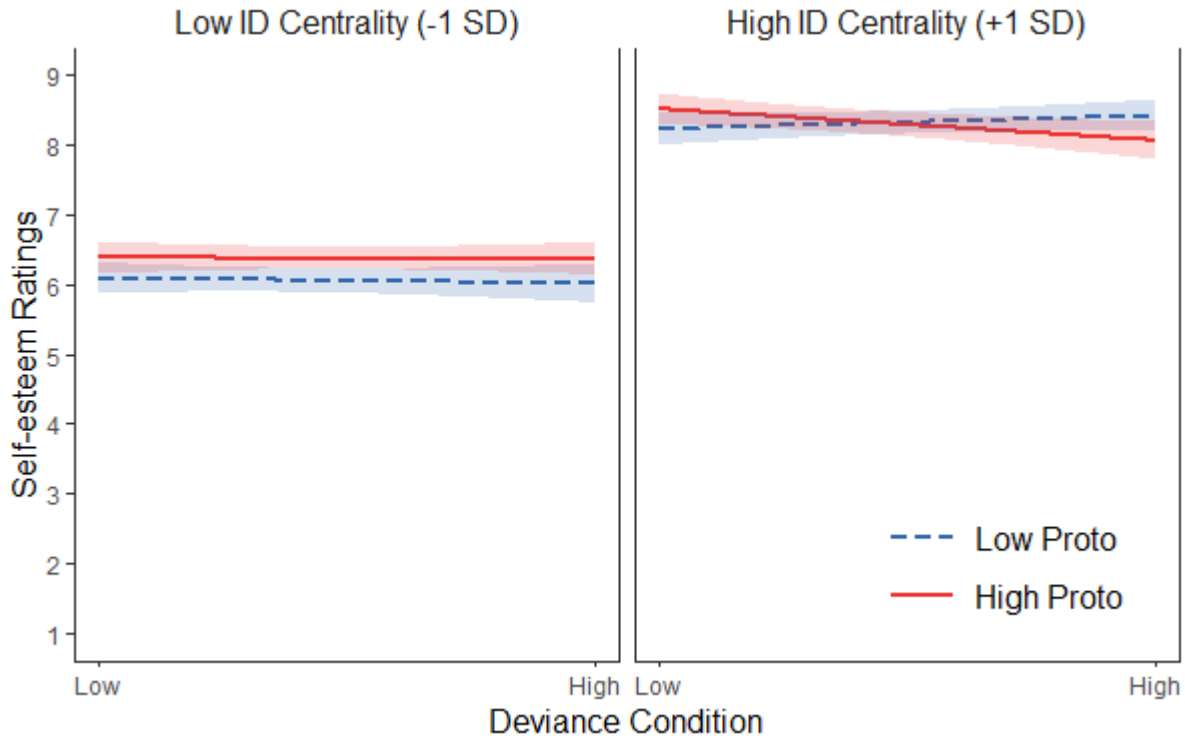
Focal Analyses

Self-uncertainty. At step 1, $R^2 = .08$, $F(3, 262) = 8.14$, $p < .001$, hierarchical multiple regression analyses found a main effect of identity centrality at step 1, $b = 0.44$, $SE = 0.08$, $p < .001$. Participants who reported higher identity centrality also reported higher self-uncertainty. No two- or three-way interactions were significant.

Self-esteem. At step 1, $R^2 = .70$, $F(3, 262) = 203.70$, $p < .001$, hierarchical multiple regression analyses found a main effect of identity centrality, $b = 0.82$, $SE = 0.04$, $p < .001$. Participants who reported higher identity centrality also reported higher self-esteem. No two-way interactions were significant at step 2. However, at step 3, $R^2 = .72$, $\Delta R^2 = .01$, $\Delta F(1, 258) = 4.10$, $p = .044$, there was a significant three-way interaction, $b = -0.06$, $SE = 0.04$, $p = .044$.

Figure 1.

Simple Slope Analyses of Participants' Self-esteem for Participants with Low (Left Panel) and High (Right Panel) Identity Centrality (Study 1)



As seen in figure 1, subsequent simple-slope and conditional intercept analyses found that, on average, participants with low identity centrality reported lower self-esteem than participants with high identity centrality. When the target student had low prior prototypicality, participants did not differ in their self-esteem based on their identity centrality. When the target student had high prior prototypicality, participants with high identity centrality reported lower self-esteem when they evaluated the student who cheated three times compared to the student who cheated once, $b = -0.22$, $SE = 0.08$, $p = .012$. Participants with high identity centrality did not differ in their self-esteem when evaluating a deviant with prior low prototypicality, $b = 0.94$, $SE = .08$, $p = .260$. Participants with low identity centrality did not differ in their self-esteem

based on if they evaluated the target student who cheated once, $b = -0.04$, $SE = 0.08$, $p = .658$, or three times, $b = -0.01$, $SE = 0.82$, $p = .938$.

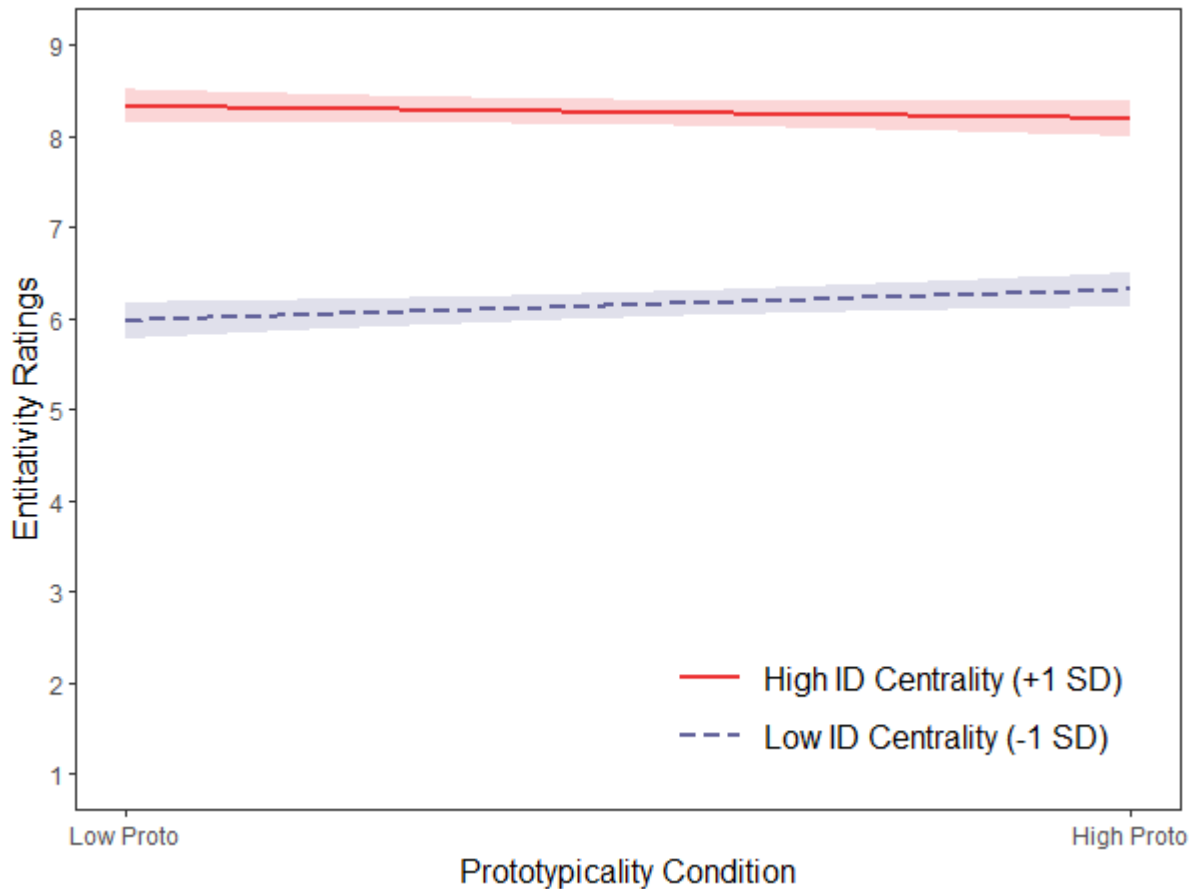
Target evaluations. At step 1, $R^2 = .18$, $F(3, 262) = 19.93$, $p < .001$, hierarchical multiple regression analyses found a main effect of identity centrality, $b = 0.52$, $SE = 0.08$, $p < .001$, and prototypicality condition, $b = 0.24$, $SE = 0.10$, $p = .012$. Participants who reported higher identity centrality also reported higher evaluations of the target student, and participants in the high prototypicality conditions reported higher target evaluations of the target student compared to participants in the low prototypicality conditions. No two- or three-way interactions were significant.

University evaluations. At step 1, $R^2 = .48$, $F(3, 262) = 80.98$, $p < .001$, hierarchical multiple regression analyses found a main effect of identity centrality, $b = 0.66$, $SE = 0.04$, $p < .001$. Participants who reported higher identity centrality also reported more positive evaluations of their university. No two- or three-way interactions were significant.

Entitativity. At step 1, $R^2 = .64$, $F(3, 262) = 153.10$, $p < .001$, hierarchical multiple regression analyses found a main effect of identity centrality, $b = 0.82$, $SE = 0.04$, $p < .001$. Participants who reported higher identity centrality also reported higher entitativity. At step 2, $R^2 = .65$, $\Delta R^2 = .01$, $\Delta F(3, 259) = 3.04$, $p = .030$, there was a two-way interaction between identity centrality and prototypicality condition, $b = -0.09$, $SE = 0.04$, $p = .018$. There was no other significant two- or three-way interactions.

Figure 2.

Simple Slope Analyses of Participants' Entitativity Ratings (Study 1)



As seen in figure 2, subsequent simple-slope and conditional intercept analyses found that, on average, participants with high identity centrality reported higher entitativity than participants with low identity centrality. Participants with low identity centrality reported more entitativity when they evaluated a student that had high prototypicality compared to when they had low prototypicality, $b = 0.16$, $SE = 0.06$, $p = .016$. However, participants with high identity centrality did not differ in their perceptions of group entitativity, $b = -0.06$, $SE = 0.07$, $p = .349$.

Status and prestige. At step 1, $R^2 = .62$, $F(3, 262) = 141.70$, $p < .001$, hierarchical multiple regression analyses found a main effect of identity centrality, $b = 0.78$, $SE = 0.04$, $p <$

.001. Participants who reported higher identity centrality also reported higher status and prestige of their university. No other two- or three-way interactions were significant.

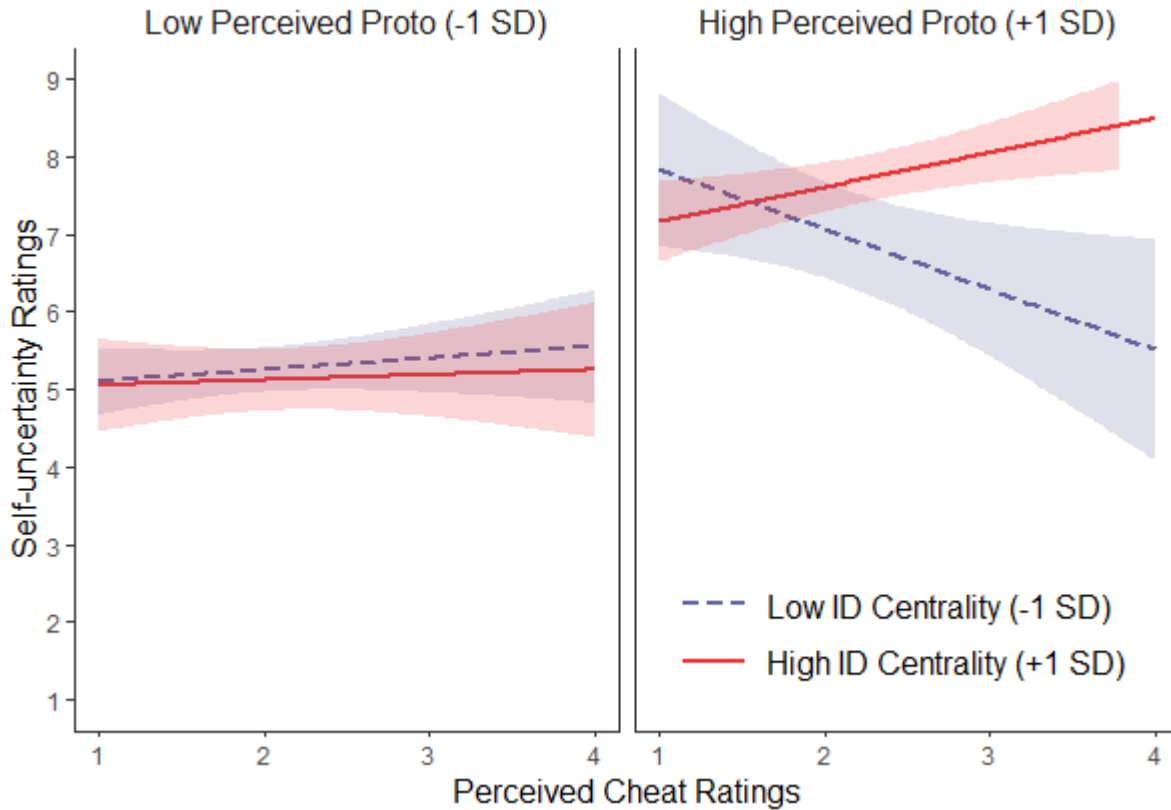
Exploratory Analyses

After finding only an effect of cheating behavior as part of a three-way interaction for one of the six outcome variables, exploratory analyses investigated whether substituting the experimental conditions with manipulation check responses would reveal different results.

Self-uncertainty. At step 1, $R^2 = .40$, $F(3, 262) = 57.55$, $p < .001$, hierarchical multiple regression analyses found a main effect of prototypicality ratings, $b = 0.78$, $SE = 0.06$, $p < .001$. Participants who reported that the target student had higher prototypicality also reported greater self-uncertainty. At step 2, $R^2 = .42$, $\Delta R^2 = .02$, $\Delta F(3, 259) = 2.68$, $p = .048$, there was a two-way interaction between identity centrality and prototypicality ratings, $b = 0.12$, $SE = 0.04$, $p = .012$. At step 3, $R^2 = .44$, $\Delta R^2 = .02$, $\Delta F(1, 258) = 8.92$, $p = .004$, the two-way interaction was qualified by a three-way interaction, $b = 0.16$, $SE = 0.06$, $p = .004$.

Figure 3.

Simple Slope Analyses of Participants' Self-uncertainty for Participants with Low (Left Panel) and High (Right Panel) Identity Centrality (Study 1)



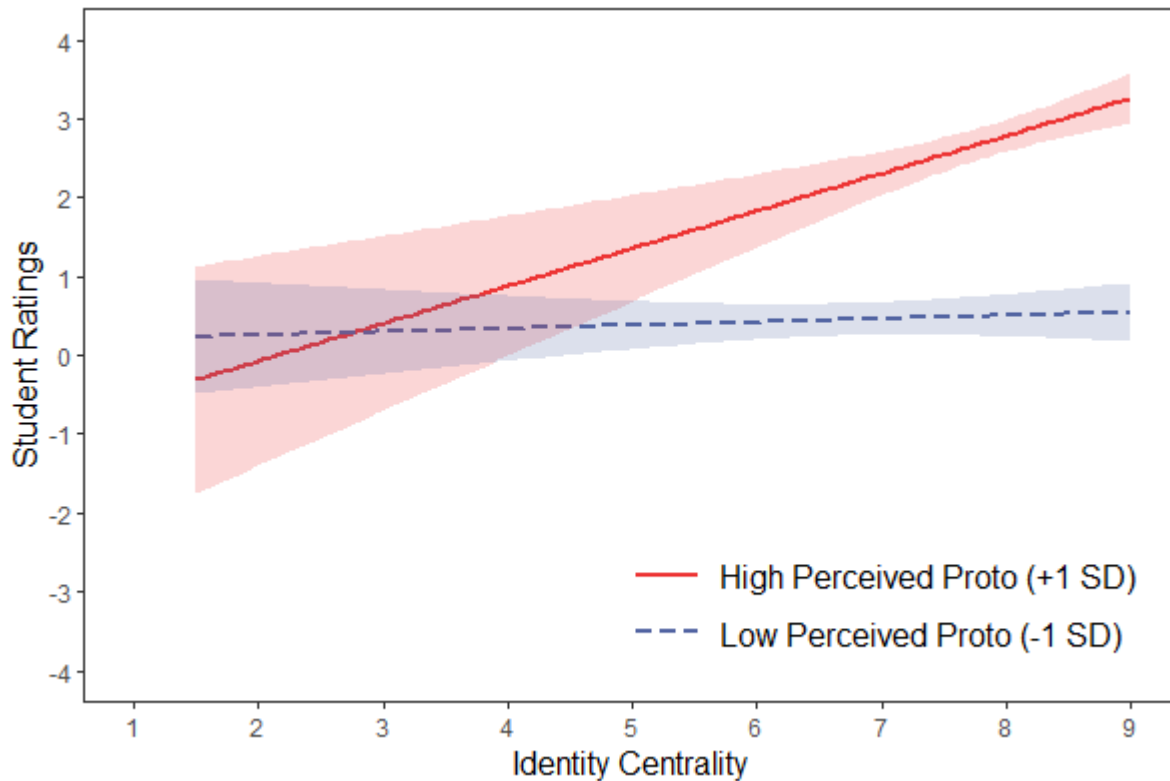
As seen in figure 3, subsequent simple-slope and conditional intercept analyses found that, on average, participants reported greater self-uncertainty when the target deviant had high prototypicality compared to when they had low prototypicality. When evaluating the target deviant with high prototypicality, participants who reported higher identity centrality also reported greater self-uncertainty when they perceived the target deviant to cheat more often, $b = 0.44$, $SE = .16$, $p = .008$. However, participants who reported lower identity centrality also reported less self-uncertainty when they perceived the highly prototypical target deviant to cheat more often, $b = -0.78$, $SE = 0.34$, $p = .027$.

Self-esteem. At step 1, $R^2 = .70$, $F(3, 262) = 207.90$, $p < .001$, hierarchical multiple regression analyses found a main effect of identity centrality, $b = 0.76$, $SE = 0.04$, $p < .001$. Participants who reported higher identity centrality reported higher self-esteem. Although there was a significant two-way interaction between identity centrality and prototypicality ratings at step 2, $b = -0.06$, $SE = 0.02$, $p = .022$, there was not a significant improvement in model fit compared to step 1, $R^2 = .72$, $\Delta R^2 = .01$, $\Delta F(3, 259) = 2.01$, $p = .112$. No other two- or three-way interactions were significant.

Target evaluations. At step 1, $R^2 = .50$, $F(3, 262) = 85.03$, $p < .001$, hierarchical multiple regression analyses found a main effect of identity centrality, $b = 0.14$, $SE = 0.06$, $p = .040$, and prototypicality ratings, $b = 0.70$, $SE = 0.06$, $p < .001$. Regardless of cheating amount, participants with higher identity centrality evaluated the target student more favorably if they thought the target deviant was more prototypical of their university. At step 2, $R^2 = .52$, $\Delta R^2 = .02$, $\Delta F(3, 259) = 4.94$, $p = .002$, there was a two-way interaction between identity centrality and prototypicality ratings, $b = 0.14$, $SE = 0.04$, $p < .001$. No other two- or three-way interactions were significant.

Figure 4.

Simple Slope Analyses of Participants' Ratings of the Target Moral Deviant (Study 1)



As seen in figure 4, subsequent simple-slope and conditional intercept analyses found that, on average, participants rated the target student with high prototypicality more positively than the target student with low prototypicality. Participants who perceived the target student to have lower prototypicality did not differ in their ratings toward the target as a function of their identity centrality, $b = 0.04$, $SE = 0.06$, $p = .546$. Participants who perceived the target student to have higher prototypicality increased their ratings toward the target student as their identity centrality increased, $b = 0.48$, $SE = 0.12$, $p < .001$.

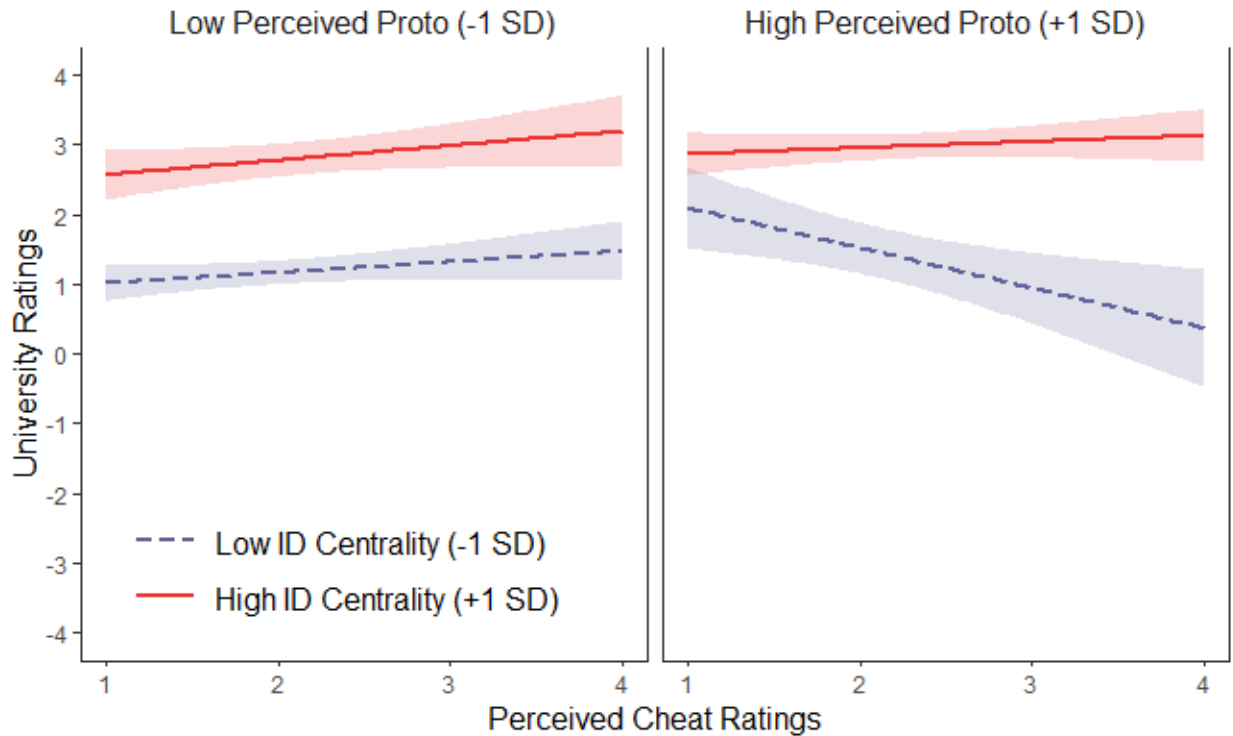
University ratings. At step 1, $R^2 = .48$, $F(3, 262) = 83.55$, $p < .001$, hierarchical multiple regression analyses found a main effect of identification, $b = 0.60$, $SE = 0.04$, $p < .001$.

Participants with higher identity centrality also reported higher ratings of their university.

Although there was a significant two-way interaction between cheating ratings and prototypicality ratings at step 2, $b = -0.10$, $SE = 0.04$, $p < .001$, there was not a significant improvement in model fit compared to step 1, $R^2 = .50$, $\Delta R^2 = .01$, $\Delta F(3, 259) = 1.76$, $p = .154$. However, at step 3, $R^2 = .51$, $\Delta R^2 = .01$, $\Delta F(1, 258) = 5.60$, $p = .018$, the two-way interaction was qualified by a three-way interaction, $b = 0.08$, $SE = 0.04$, $p = .018$.

Figure 5.

Simple Slope Analyses of Participants' University Ratings for Participants Who Perceived the Moral Deviant to have Low (Left Panel) or High (Right Panel) Prototypicality (Study 1)



As seen in figure 5, subsequent simple-slope and conditional intercept analyses found that, on average, participants with high identity centrality rated their university more favorably than participants with low identity centrality. When participants thought that the target student had higher prototypicality, participants with lower identity centrality reported lower ratings of their university when they perceived the target student to have cheated more often, $b = -0.58$, $SE = 0.20$, $p = .006$. However, participants with higher identity centrality did not differ in their ratings of their university based on how often they perceived the target student to have cheated, $b = 0.08$, $SE = 0.10$, $p = .367$. When participants thought that the target student had lower prototypicality, participants did not differ in their ratings of their university based on how much

they cheated and if they had low identity centrality, $b = 0.16$, $SE = 0.10$, $p = .119$, or high identity centrality, $b = 0.20$, $SE = 0.12$, $p = .089$.

Entitativity. At step 1, $R^2 = .64$, $F(3, 262) = 155.10$, $p < .001$, hierarchical multiple regression analyses found a main effect of identity centrality, $b = 0.78$, $SE = 0.04$, $p < .001$. Participants who reported higher identity centrality also reported more entitativity at their university. No two- or three-way interactions were significant.

Status and prestige. At step 1, $R^2 = .64$, $F(3, 262) = 154.00$, $p < .001$, hierarchical multiple regression analyses found a main effect of identity centrality, $b = 0.70$, $SE = 0.04$, $p < .001$, and prototypicality ratings, $b = 0.12$, $SE = 0.04$, $p < .001$. Participants with higher identity centrality also stated that their university had higher status and prestige. Separately, participants who thought that the target student had higher group prototypicality also reported their university as having more status and prestige. No two- or three-way interactions were significant.

Study 1 Discussion

Study 1 attempted to conceptually replicate the key findings from Ramdass and Hogg (2019) regarding whether a multiple-time moral ingroup deviant would be evaluated more negatively than a one-time moral ingroup deviant. Across six outcome variables, Hypothesis 1 was not supported experimentally or using manipulation check ratings. Instead, the strongest predictor of how a group member would respond to a moral ingroup deviant was their own identity centrality. Participants with higher identity centrality reported greater self-uncertainty *and* greater self-esteem when they were told that a moral ingroup deviant was in their group. Participants with higher identity centrality also rated the moral ingroup deviant more favorably, rated their university more favorably, and thought that their university was more entitative and had higher status and prestige.

Hypothesis 2 posited a three-way interaction between the amount of times a group member commits a morally deviant act, the deviant's prior prototypicality, and the identity centrality of the person evaluating the moral ingroup deviant. This hypothesis had mixed support. Experimentally, there was a three-way interaction for participants' self-esteem: participants with high identity centrality experienced lower self-esteem when the target student had prior high prototypicality and deviated three times instead of once. This finding supports Hypothesis 2, but there were no other three-way interactions within experimental conditions.

The lack of three-way interactions from experimental conditions led to further exploratory analyses. Results were more nuanced when using manipulation checks in lieu of experimental conditions. Analyses supported a three-way interaction for self-uncertainty: group members with higher identity centrality experience greater self-uncertainty when they evaluated a prototypical group member who deviated many times compared to when they deviated once. Unexpectedly, participants with lower identity centrality experienced *lower* self-uncertainty when they evaluated a prototypical group deviant who deviated many times compared to when they deviated once.

Results were also different depending on whether participants evaluated the target student or their university. There was only a two-way interaction for evaluations of the target student. Participants with higher identity centrality had more favorable ratings toward the target student when the student had prior high prototypicality. Participants with lower identity centrality did not differ in their ratings of the target student. However, when evaluating the university, participants with low identity centrality rated the university less favorably when they were faced with a group member that had high prototypicality and who deviated many times. Participants with high identity centrality did not differ in their evaluations of their university.

Generally, Study 1 offered mixed results regarding changes in self-uncertainty or self-esteem in response to a moral ingroup deviant. Furthermore, Study 1 offered mixed results in relation to how group members evaluate a moral ingroup deviant and their group overall. Study 2 attempted to clarify the relationships observed in Study 1 and investigate whether group members' responses to a moral ingroup deviant would influence the experiences of self-uncertainty and self-esteem or evaluations of a moral ingroup deviant or their group overall.

CHAPTER 3

Study 2

Responses from other group members may influence a group member's decision to leave a group (Ditrich et al., 2019; Ditrich & Sassenberg, 2016). Group members who feel that a group does not support a previously established norm experience identity subversion and are more likely to desire to either attempt to modify their group norm or leave their group. Study 1 showed that group members may vary their reactions to moral deviance or their evaluations of moral deviants based on their own identity centrality and characteristics of the moral ingroup deviant. Study 2 builds from Ditrich's work by investigating whether group members' reactions to or evaluations of moral deviants were moderated by whether other group members did or did not punish the moral deviance.

Participants indicated how central their college or university was to their identity before being placed in a 2 (prior deviant prototypicality: low or high) by 2 (group response: condemn or condone) between-participants design. To reduce the study design complexity, Study 2 had the target group member commit only one morally deviant act. The following hypotheses are proposed for Study 2:

H1: Group members' self-uncertainty will be higher (H1A) and/or their self-esteem will be lower (H1B) when a fellow group member morally deviates repeatedly compared to when they commit only one morally deviant act. Furthermore, group members will evaluate the moral ingroup deviant negatively (H1C) and their group as a whole (H1D) more negatively when the group condones the group deviant compared to when the group condemns the group deviant. Also, group members will report that their group has less

entitativity (H1E) and status and prestige (H1F) when the group condones the group deviant compared to when the group condemns the group deviant.

H2: A three-way interaction will occur. The predictions under H1 will be moderated by how group prototypical the deviant is and by how central the group identity is to the participants, such that the predictions under H1 will be accentuated where both the group condones the deviant action and when the participant's identity centrality is higher.

Study 2 Methods

Participants and Design

Participants ($N = 330$ initial, 297 final) were recruited from Amazon.com's Mechanical Turk (MTurk) via CloudResearch (Litman et al., 2017). A description of data cleaning and data removal steps is described in the results' section. Participants were older than traditional undergraduate students ($M = 30.77$, $SD = 9.73$) and mostly white (76%). There were 133 females and 164 males in Study 2. Participants were paid \$1.50 to complete the study and the median completion time was 8.02 minutes.

Participants met the following inclusion criteria to participate in Study 2: they were 18 years old or older, have a US-based IP address, and stated that they were currently enrolled in a post-secondary degree granting institution (e.g., college or university) within the last six months before data collection occurs. An a priori power analysis was conducted based on the effect size of the three-way interaction using manipulation checks for self-uncertainty from Study 1. Using WebPower (version 0.5.2; Zhang & Mai, 2018), the power analysis suggested that 298 participants would be needed to detect the hypothesized effects for Study 2 ($f^2 = 0.135$, $\alpha = .05$, $power = .90$).³

³ Cohen's f was taken from the ΔR^2 for the addition of the three-way interaction ($\Delta R^2 = 0.002$) in study 1 and converting it to Cohen's f using <https://www.escal.site/#>.

In study 2, participants rated their identity centrality with their college or university before being placed in a 2 (prior deviant prototypicality: low or high) by 2 (group response: did or did not punish) between-participants design. Outcome variables included ratings of the participant's current self-uncertainty or self-esteem, evaluations of the moral group deviant, and self-report evaluations of the group's entitativity, and status and prestige.

Materials

Predictor Variables. Identity centrality was measured using the same four questions from Study 1, $\alpha = .77$.

Prior deviant prototypicality and group response were manipulated based on vignettes developed for the present research. Participants read about a student from their university who had prior low or high group prototypicality. They also will be told that other group members either condemned or condoned their moral deviance. Here is an example vignette for a moral deviant who had prior high prototypicality and whose behavior was punished by other group members:

Jordan Smith is currently a sophomore at [your university]. Jordan has only attended [your university], and currently has a 3.2 GPA. Jordan attends and participates in many social and educational events on campus. On average, Jordan is similar to most other students at [your university].

You later find out that Jordan plagiarized their final paper in a recent class last semester. Jordan's professor punished Jordan for plagiarism on the final paper, and Jordan's classmates stated that Jordan deserved any punishment that the class, department, or university prescribed in response to plagiarism.

Participants in the conditions where the group did not punish the moral deviant behavior read: “Jordan’s professor did not punish Jordan for plagiarism on the final paper, and Jordan’s classmates stated that Jordan should not be punished for plagiarism by the class, department, or university.”

Participants were asked three questions to check for differences in the prototypicality manipulations (e.g., “how typical is Jordan of students at your university,” $\alpha = .82$) and two questions to check for differences in the response manipulations (e.g., “based on what you read, did others from [your university] not punish or punish Jordan’s behavior” and “based on what you read, did others from [your university] condone or condemn Jordan’s behavior,” $r = .56$). See Appendix I for all four vignettes used in Study 2.

Outcome and Demographic Variables. Study 2 had the same outcome and demographic variables as Study 1. They include social identity uncertainty ($\alpha = .89$), self-esteem ($\alpha = .82$), ratings of the target student who deviated ($\alpha = .95$), overall ratings of the participant’s university ($\alpha = .93$), ratings of the participant’s university’s entitativity ($\alpha = .83$), and ratings of the participant’s university’s status and prestige ($\alpha = .83$).

Procedure

Procedures were similar to Study 1. Participants completed a brief check to ensure they meet the inclusion criteria for this study and that they would pay attention and complete the study honestly (Rouse, 2015). Participants then rated their identity centrality before reading one of four vignettes that describes a possible moral deviant. Then, they completed the measures of self-esteem or uncertainty (counterbalanced) before assessing their rating of the student who deviated, their university overall, and the group’s entitativity, status, and prestige (counterbalanced). They finished the study by providing their demographic information. See

Table 3 for descriptive statistics and correlations between variables and Table 4 for Cronbach's alphas and model fit statistics for scales from Study 2.

Table 3

Means, Standard Deviations, and Correlations for Study 2

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
1. Identity Centrality (4 items)	7.44	0.98										
2. Prototypicality Condition	-0.02	1.00	.00									
3. Prototypicality Check Average (3 items)	7.01	1.37	.52**	.19**								
4. Response Condition	0.00	1.00	-.05	.04	.05							
5. Response Average (2 items)	6.51	1.88	.27**	.05	.59**	.15**						
6. Identity Uncertainty (3 items)	6.43	1.90	.24**	-.07	.48**	-.03	.49**					
7. Self-esteem (5 items)	7.49	0.99	.74**	.04	.44**	-.02	.26**	.09				
8. Target Evaluation (12 items)	1.87	1.56	.45**	.06	.58**	-.03	.41**	.55**	.35**			
9. University Evaluation (12 items)	2.29	1.10	.68**	-.02	.40**	-.10	.23**	.18**	.70**	.53**		
10. Entitativity (3 items)	7.47	1.15	.80**	.03	.49**	-.04	.28**	.21**	.75**	.48**	.71**	
11. Status and Prestige (4 items)	7.40	1.05	.78**	.05	.52**	-.06	.30**	.19**	.81**	.45**	.76**	.83**

Note. Cheat Condition was coded as -1 = Did Not Punish and 1 = Did Punish

Prototypicality condition was coded as -1 = Low Prototypicality and 1 = High Prototypicality

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

Table 4

Cronbach's alphas and model fit information for measures used in study 2

Variable	α	Chi-square	p	Robust CFI	SRMR	Robust RMSEA
Identity Centrality	0.74	10.48	0.005	0.96	0.04	0.15
Identity Uncertainty	0.89	0.00	-	-	-	-
Self-esteem	0.82	1.60	0.900	1.00	0.02	0.00
Target Evaluations	0.95	96.58	< .001	0.97	0.03	0.08
University Evaluations	0.93	54.80	0.444	0.99	0.03	0.01
Group Entitativity	0.83	0.00	-	-	-	-
Status and Prestige	0.83	2.34	0.310	0.99	0.02	0.02

Note: Identity uncertainty and group entitativity only had three items per measure.

Data Analysis Strategy

Study 2 had a similar data analysis plan as study 1. Measured variables were averaged to form mean composites for each variable upon the observance of high internal consistency within each variable. Then, to check for potential covariation, each predictor variable (e.g., identity centrality, prior prototypicality, and deviance amount) and all interactions were regressed onto participants' demographic variables. Regression analyses were used to check for covariance based on participants' age and gender. Simulated chi-square analyses investigated whether the racial breakdown of participants was evenly distributed between experimental conditions.

Hypotheses 1 and 2 were investigated using regression analyses. Following Aiken and West (1991), participants' values were mean centered before creating interaction terms. Main effects were entered at step 1, two-way interactions at step 2, and the three-way interaction at step 3.

Study 2 Results

Although 330 participants were paid and submitted data for Study 2, 22 participants were removed for stated inattention. Eleven participants were removed for being an extreme

multivariate outlier (e.g., having a Mahalanobis distance greater than 35). This left 297 participants for the present analyses.

Demographic Analyses, Scale Assessment, and Univariate Normality

Demographic analyses investigated whether any demographic variable was related with any predictor variable. Regression analyses found no relationships between age, $ps > .252$, or sex, $ps > .05$, and any main effect or interaction. Simulated chi-square tests with 2,000 bootstraps found no relationships between sex or race and any predictor variable, $ps > .236$. No demographic variables were entered as any covariates for Study 2.

Measured variables were assessed for internal consistency and structural validity. As seen in Table 4, all measures had high internal consistency (as measured through Cronbach's alphas) or evidence of structural validity (as measured through confirmatory factor analyses).

All study variables achieved univariate normality with skew values below ± 1.50 and kurtosis values below ± 3.08 . As such, data were analyzed as is without any transformations.

Manipulation Checks

Manipulation checks were analyzed to see the effectiveness of the vignettes in Study 2. Multiple regression analyses found that participants in the high prototypicality conditions rated the target student as more prototypical than participants in the low prototypicality conditions, $b = 0.26$, $SE = 0.06$, $p < .001$. Unexpectedly, there was also an effect of identity centrality.

Participants who had higher identity centrality also reported that the target student was more prototypical, $b = 0.74$, $SE = 0.06$, $p < .001$. No two- or three-way interactions were significant.

Multiple regressions found that participants in the response conditions differed in their perception of how much their university punished the target student, $b = 0.32$, $SE = 0.10$, $p =$

.002.⁴ Unexpectedly, participants with higher identity centrality also reported that the target student was punished more, $b = 0.54$, $SE = 0.10$, $p < .001$. No two- or three-way interactions were significant.

Based on these analyses, both primes were successful in changing the perceptions of the prototypicality of the target student. However, the perception of the target student may have been influenced by participants' baseline identity centrality irrespective of the prime itself. For the present analyses, the primes were analyzed as-is.

Focal Analyses

Self-uncertainty. At step 1, $R^2 = .06$, $F(3, 293) = 6.56$, $p < .001$, hierarchical multiple regression analyses found a main effect of identity centrality, $b = 0.46$, $SE = 0.10$, $p < .001$.

Participants with higher identity centrality also reported greater self-uncertainty when evaluating the target student. No other main effects or interactions were significant.

Self-esteem. At step 1, $R^2 = .54$, $F(3, 293) = 118.00$, $p < .001$, hierarchical multiple regression analyses found a main effect of identity centrality, $b = 0.74$, $SE = 0.04$, $p < .001$.

Participants who had higher identity centrality also reported higher self-esteem. No other main effects or interactions were significant.

Target student evaluations. At step 1, $R^2 = .20$, $F(3, 293) = 24.84$, $p < .001$, hierarchical multiple regression analyses found a main effect of identity centrality, $b = 0.72$, $SE = 0.08$, $p <$

⁴ Participants may have had an easier time understanding “did not or did punish” over “condone or condemn” in responding to the manipulation check for response conditions. Two independent-samples’ t -tests found a larger effect size when participants were asked whether their university did not or did punish Jordan ($t(295) = 2.96$, $p = .004$, $d = 0.34$) compared to when participants were asked whether the university condoned or condemned Jordan ($t(295) = 1.66$, $p = .097$, $d = .20$). However, subsequent demographic checks, focal analyses, and exploratory analyses were congruent when using the combined response measure and when only using “did not or did punish.” As such, results presented here used the combined response check measure and are congruent when using the single item “did not or did punish” question.

.001. Participants with higher identity centrality evaluated the target student more favorably. No other main effects or interactions were significant.

University evaluations. At step 1, $R^2 = .46$, $F(3, 293) = 85.53$, $p < .001$, hierarchical multiple regression analyses found a main effect of identity centrality, $b = 0.76$, $SE = 0.04$, $p < .001$. Participants with higher identity centrality had more favorable ratings of their university. No other main effects or interactions were significant.

Entitativity. At step 1, $R^2 = .64$, $F(3, 293) = 173.20$, $p < .001$, hierarchical multiple regression analyses found a main effect of identity centrality, $b = 0.94$, $SE = 0.04$, $p < .001$. Participants with higher identity centrality perceived their group to be more entitative. No other main effects or interactions were significant.

Status and prestige. At step 1, $R^2 = .62$, $F(3, 293) = 118.00$, $p < .001$, hierarchical multiple regression analyses found a main effect of identity centrality, $b = 0.74$, $SE = 0.04$, $p < .001$. Participants with higher identity centrality felt that their university had higher status and prestige. No other main effects or interactions were significant.

Exploratory Analyses

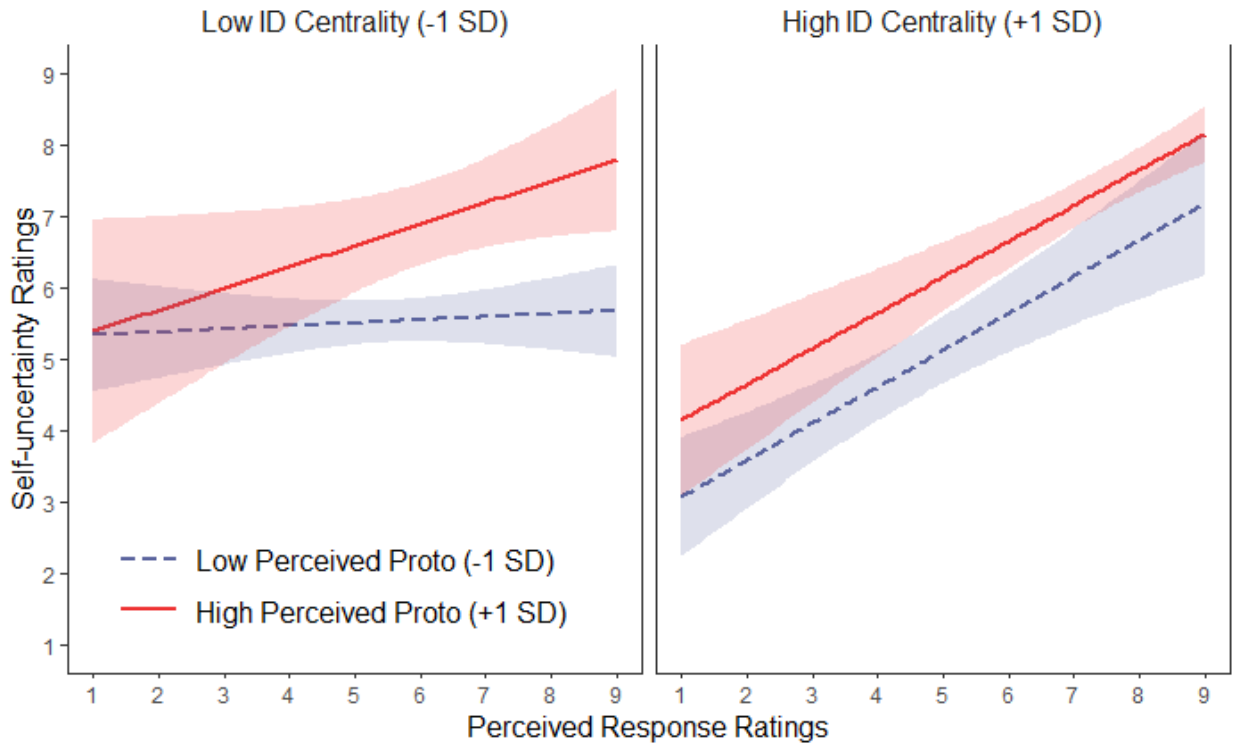
After examining the correlations between the manipulation checks and outcome variables along with the lack of significant findings using experimental conditions, subsequent analyses reanalyzed the relationships between the manipulation checks for prototypicality and response perceptions, identity centrality, and the outcome variables for study 2.

Self-uncertainty. At step 1, $R^2 = .30$, $F(3, 293) = 40.85$, $p < .001$, hierarchical multiple regression analyses found a main effect of perceived prototypicality, $b = 0.40$, $SE = 0.10$, $p < .001$, and perceived response, $b = 0.32$, $SE = 0.06$, $p < .001$. Participants had higher self-uncertainty when they perceived the target deviant to be more prototypical of their group.

Concurrently, participants had higher self-uncertainty when they perceived their group to punish the group deviant. At step 2, $R^2 = .34$, $\Delta R^2 = .06$, $\Delta F(3, 290) = 7.83$, $p < .001$, a significant two-way interaction was found between perceived response and identity centrality, $b = 0.22$, $SE = 0.06$, $p < .001$. However, at step 3, $R^2 = .36$, $\Delta R^2 = .01$, $\Delta F(1, 289) = 4.08$, $p = .044$, this two-way interaction was qualified by a three-way interaction at step 3, $b = -0.05$, $SE = 0.02$, $p = .044$.

Figure 6.

Simple Slope Analyses of Participants' Self-uncertainty for Participants with Low (Left Panel) and High (Right Panel) Identity Centrality (Study 2)



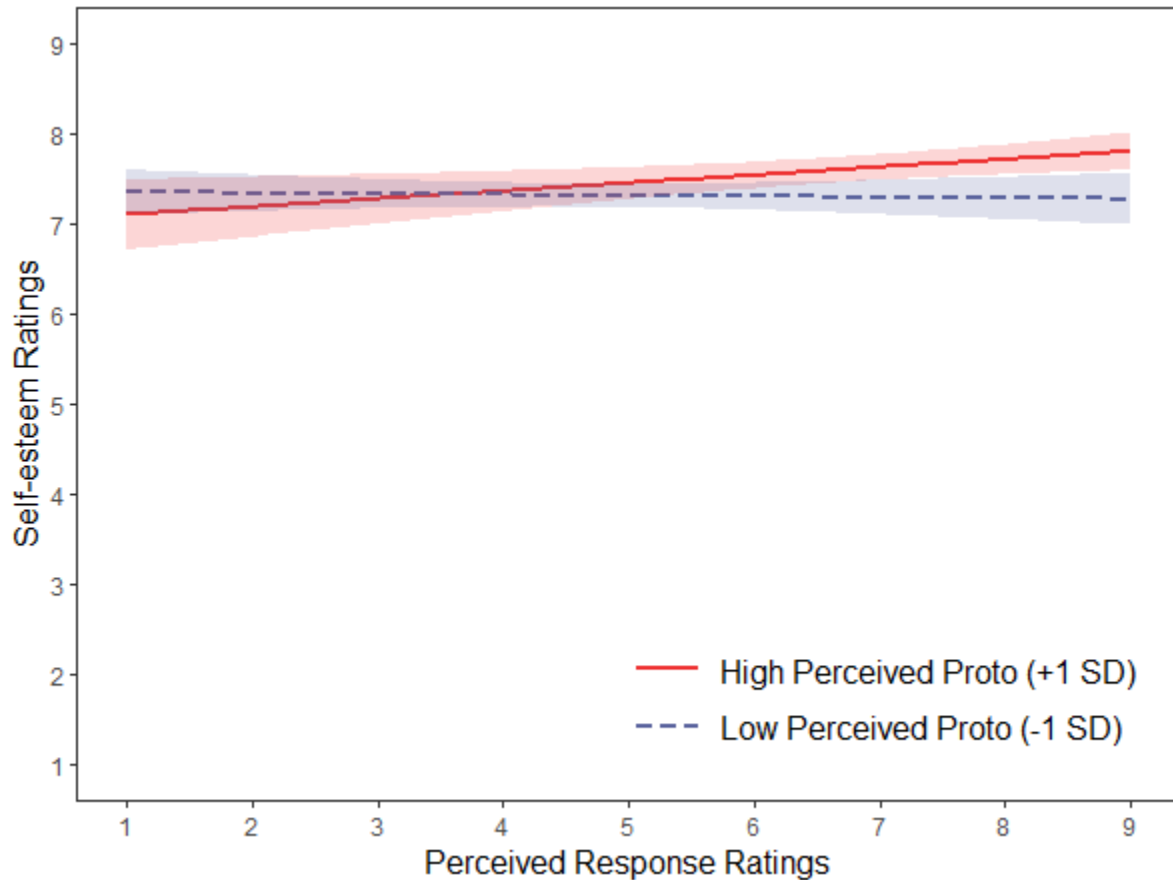
As seen in figure 6, subsequent simple-slope and conditional intercept analyses found that, on average, participants felt greater self-uncertainty when they evaluated a moral ingroup deviant who they perceived to have prior high prototypicality. For participants with lower identity centrality, participants' self-uncertainty increased when they perceived a group deviant to have prior high prototypicality and that their group punished the group deviant, $b = 0.30$, $SE = 0.14$, $p = .038$. However, participants with lower identity centrality did not differ in their self-uncertainty when evaluating a group deviant that they perceived to have lower prototypicality regardless of whether they were punished or not, $b = 0.04$, $SE = 0.08$, $p = .606$. For participants with high identity centrality, participants became more self-uncertain when they saw that the

group deviant was punished regardless of if they perceived the group deviant to have prior low prototypicality, $b = 0.52$, $SE = 0.10$, $p < .001$, or prior high prototypicality, $b = 0.50$, $SE = 0.80$, $p < .001$.

Self-esteem. At step 1, $R^2 = .55$, $F(3, 293) = 119.60$, $p < .001$, hierarchical multiple regression analyses found a main effect of identity centrality, $b = 0.72$, $SE = 0.04$, $p < .001$. Participants who reported higher identity centrality also reported higher self-esteem. At step 2, $R^2 = .58$, $\Delta R^2 = .03$, $\Delta F(3, 290) = 7.20$, $p < .001$, significant two-way interactions were significant for perceived response and perceived prototypicality, $b = 0.04$, $SE = 0.02$, $p = .010$, perceived response and identity centrality, $b = -0.10$, $SE = 0.02$, $p < .001$, and perceived prototypicality and identity centrality, $b = 0.06$, $SE = 0.02$, $p = .006$. The three-way interaction was only marginally significant, $b = 0.02$, $SE = 0.01$, $p = .062$.

Figure 7.

Simple Slope Analyses of Participants' Self-esteem based on Perceived Punishment Moderated by Perceived Prototypicality (Study 2)

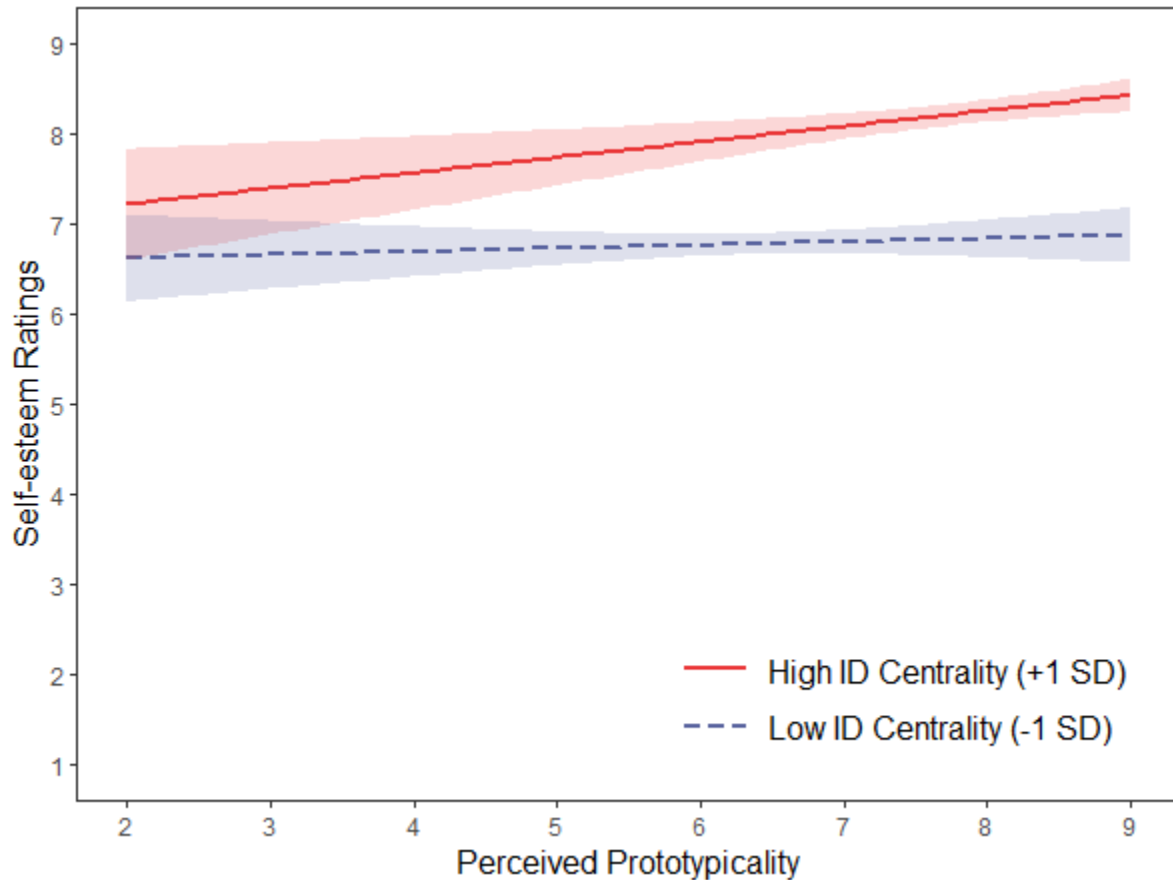


Regarding the interaction between perceived prototypicality and perceived response, participants did not differ in their self-esteem when evaluating a target student with lower prototypicality, $b = -0.01$, $SE = 0.03$, $p = .752$. When evaluating a target student with high prototypicality, participants reported higher self-esteem when they perceived that the target student was punished more for their moral deviance, $b = 0.08$, $SE = 0.04$, $p = .008$.

Figure 8.

Simple Slope Analyses of Participants' Self-esteem based on Perceived Prototypicality

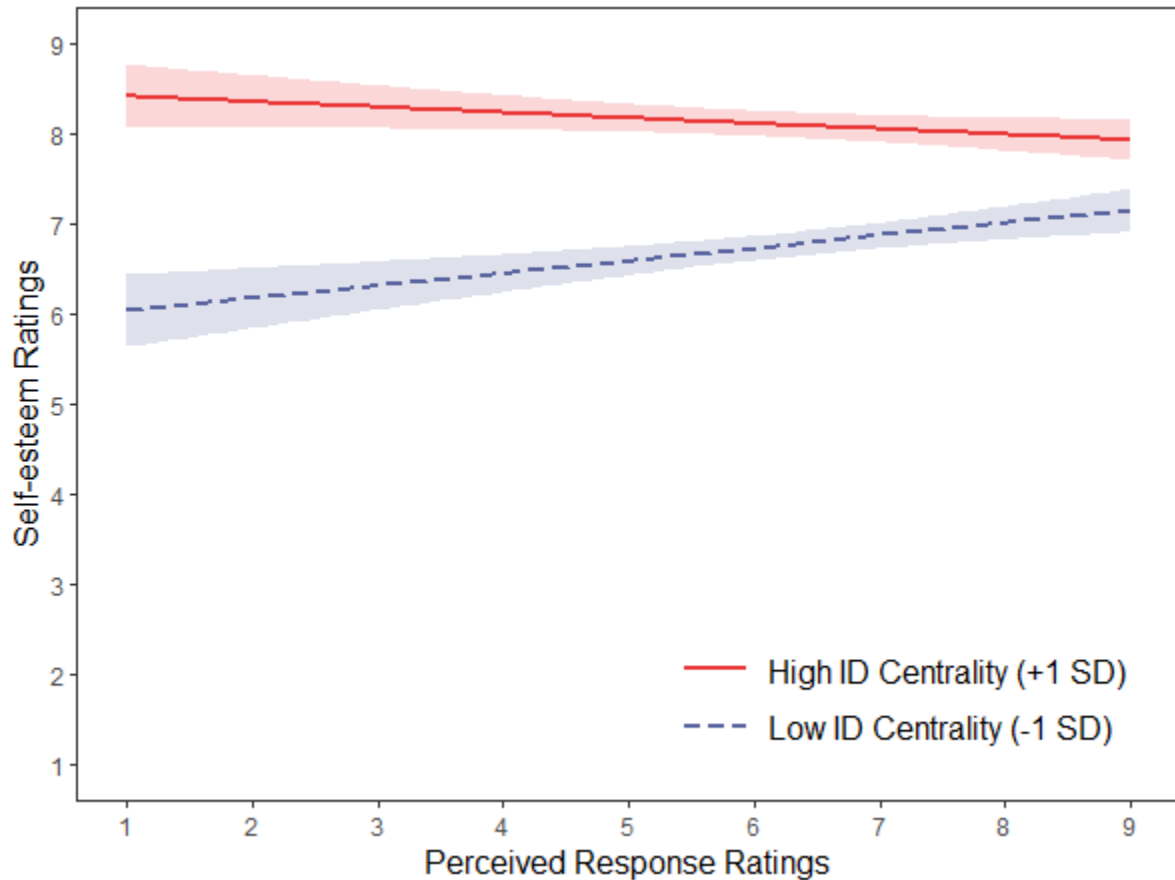
Moderated by Identity Centrality (Study 2)



Regarding the interaction between perceived prototypicality and perceived identity centrality, participants with low identity centrality did not differ in their self-esteem based on changes in the target student's prototypicality, $b = 0.04$, $SE = 0.06$, $p = .505$. However, participants with high identity centrality increased their self-esteem as the perceived prototypicality of the target student increased, $b = 0.18$, $SE = 0.06$, $p = .001$.

Figure 9.

Simple Slope Analyses of Participants' Self-esteem based on Perceived Punishment Moderated by Identity Centrality (Study 2)



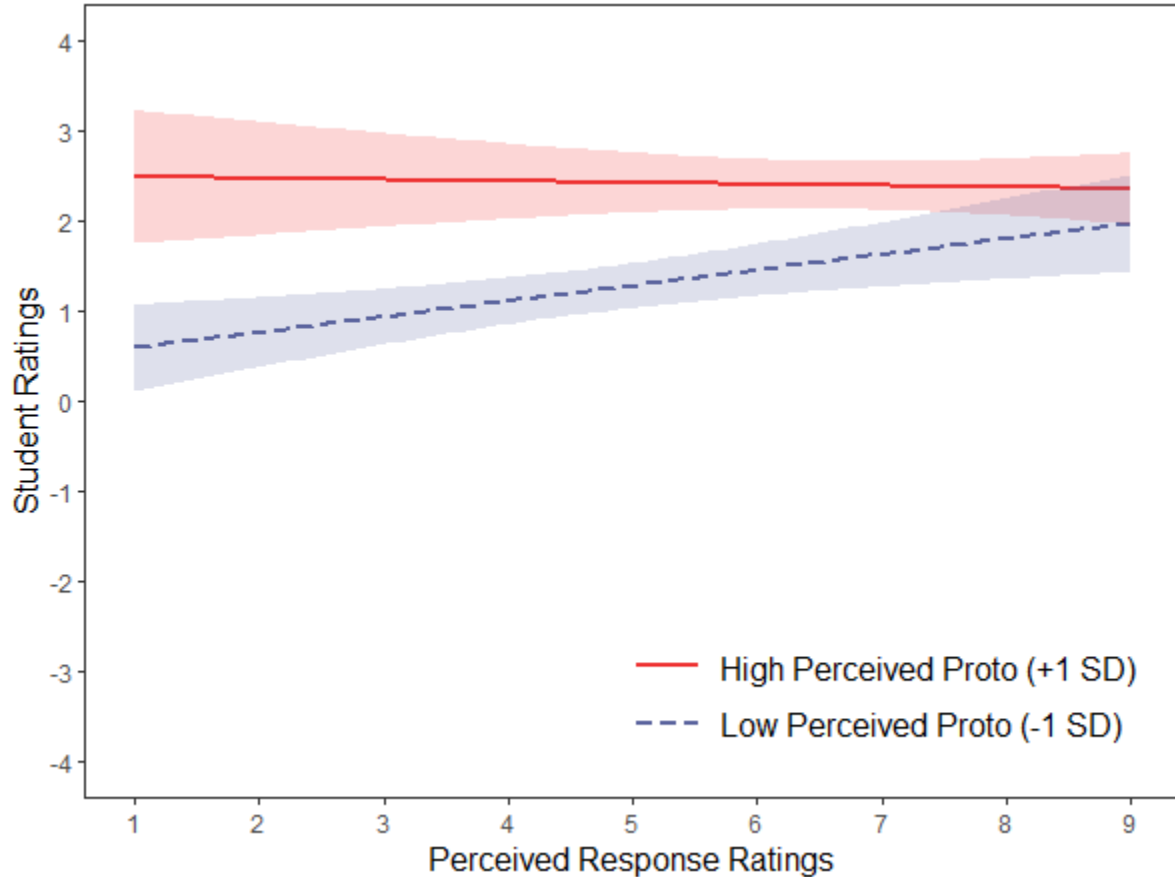
Regarding the interaction between perceived response and identity centrality, participants with lower identity centrality reported greater self-esteem as they perceived the target student to be punished more, $b = 0.14$, $SE = 0.04$, $p < .001$. Participants with higher identity centrality reported greater self-esteem than participants with lower identity centrality overall, and they marginally reported lower self-esteem when they thought that the target student was punished more often, $b = 0.06$, $SE = 0.03$, $p = .057$.

Target evaluations. At step 1, $R^2 = .38$, $F(3, 293) = 57.78$, $p < .001$, hierarchical multiple regression analyses found a main effect of identity centrality, $b = 0.72$, $SE = 0.04$, $p <$

.001, perceived response, $b = 0.10$, $SE = 0.04$, $p = .042$, and perceived prototypicality, $b = 0.46$, $SE = 0.08$, $p < .001$. Participants with higher identity centrality rated the target student more favorably, when they perceived that the target student was punished by others at their university, and when they perceived that the target student was more prototypical of their group. At step 2, $R^2 = .40$, $\Delta R^2 = .02$, $\Delta F(3, 290) = 4.34$, $p = .006$, significant two-way interactions were found for perceived response and perceived prototypicality, $b = -0.06$, $SE = 0.02$, $p = .008$, and perceived response and identity centrality, $b = 0.14$, $SE = 0.04$, $p = .002$. A marginally significant two-way interaction was found between perceived prototypicality and identity centrality, $b = -0.10$, $SE = 0.04$, $p = .056$. The three-way interaction was not significant, $b = -0.01$, $SE = 0.02$, $p = .924$.

Figure 10.

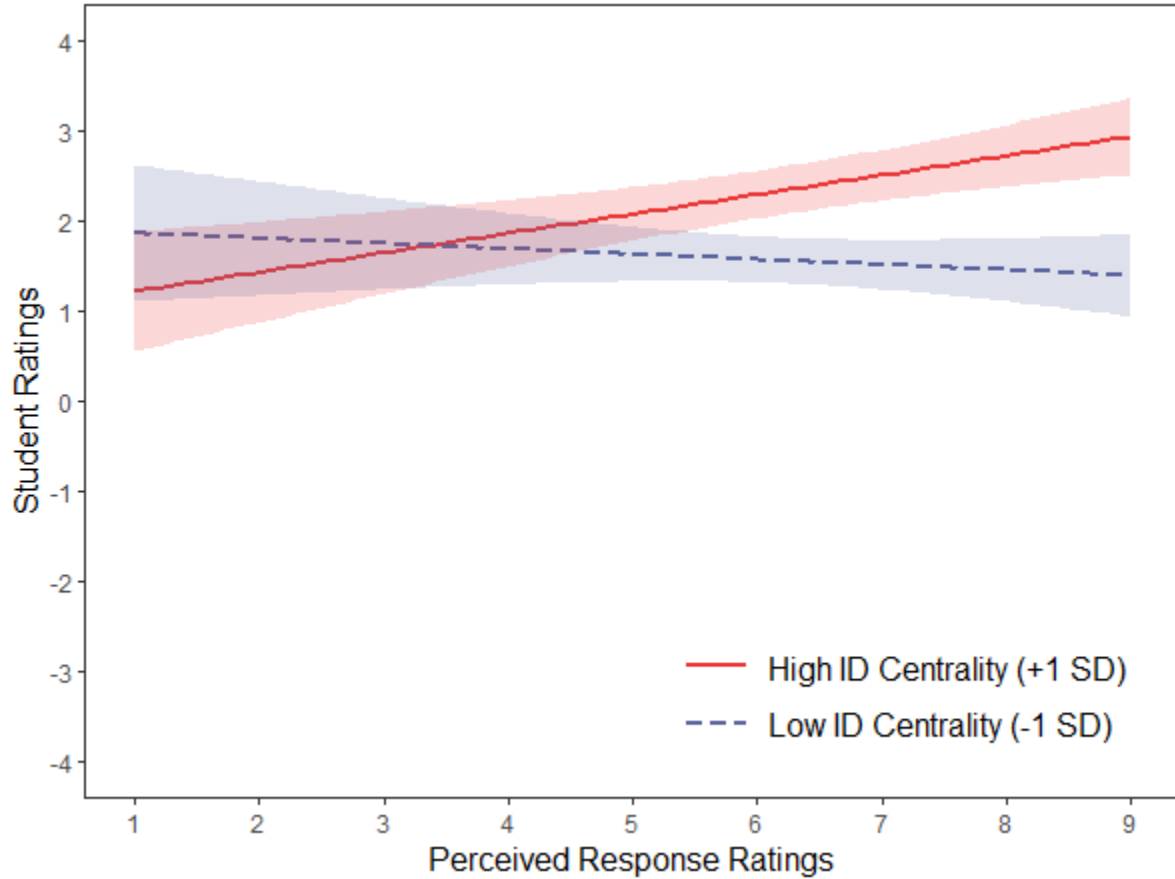
Simple Slope Analyses of Participants' Ratings of the Target Student based on Perceived Punishment Moderated by Perceived Prototypicality (Study 2)



Subsequent simple slopes and conditional intercept analyses investigated the three two-way interactions. Regarding the interaction between perceived prototypicality and response, participants rated the target student more favorably when they had higher prototypicality. Participants who perceived the target student to have low prototypicality rated the student more positively when they perceived the student to have been punished more, $b = 0.18$, $SE = 0.06$, $p = .002$. However, participants who thought that the target student had prior high prototypicality did not differ in how positively they evaluated the target student, $b = -0.02$, $SE = 0.06$, $p = .795$.

Figure 11.

Simple Slope Analyses of Participants' Ratings of the Target Student based on Perceived Punishment Moderated by Identity Centrality (Study 2)



Regarding the two-way interaction between identity centrality and perceived punishment, participants with higher identity centrality rated the target student more favorably than participants with lower identity centrality. For participants with low identity centrality, the response to the target student had no influence on the ratings towards the student, $b = -0.06$, $SE = 0.06$, $p = .400$. However, participants with high identity centrality rated the target student more favorably if they perceived their group to have punished the target student, $b = 0.22$, $SE = 0.06$, $p < .001$.

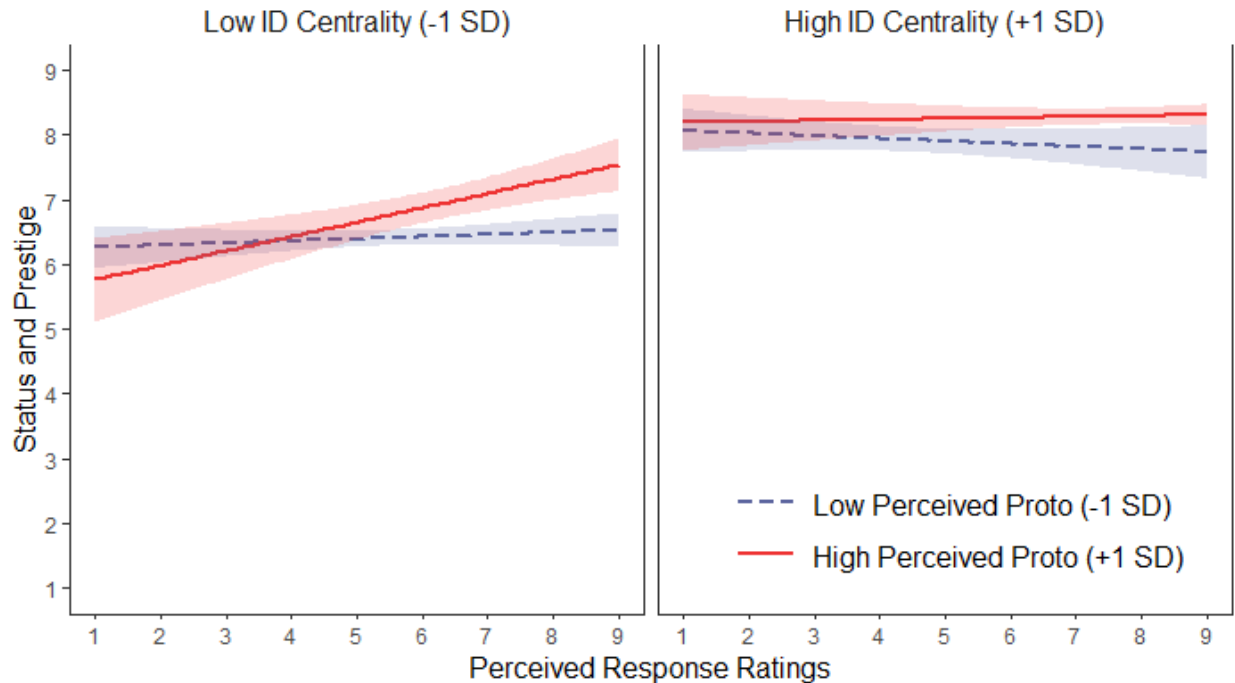
University ratings. At step 1, $R^2 = .46$, $F(3, 293) = 35.78$, $p < .001$, hierarchical multiple regression analyses found a main effect of identity centrality, $b = 0.72$, $SE = 0.06$, $p < .001$. Participants with higher identity centrality had more favorable ratings of their university overall. No other main effects or interactions were significant.

Entitativity ratings. At step 1, $R^2 = .64$, $F(3, 293) = 179.20$, $p < .001$, hierarchical multiple regression analyses found a main effect of identity centrality, $b = 0.88$, $SE = 0.04$, $p < .001$. Participants who had higher identity centrality also reported that their university had higher entitativity. No other main effects or interactions were significant.

Status and prestige. At step 1, $R^2 = .64$, $F(3, 293) = 167.60$, $p < .001$, hierarchical multiple regression analyses found a main effect of identity centrality, $b = 0.76$, $SE = 0.04$, $p < .001$, and perceived prototypicality, $b = 0.10$, $SE = 0.04$, $p = .012$. Participants rated their group as having more status and prestige if they had higher identity centrality and if they thought that the student was prototypical of their group. At step 2, $R^2 = .64$, $\Delta R^2 = .01$, $\Delta F(3, 290) = 2.98$, $p = .032$, significant two-way interactions were found between perceived response and perceived prototypicality, $b = 0.04$, $SE = 0.02$, $p = .006$, and between perceived response and identity centrality, $b = -0.05$, $SE = 0.02$, $p = .032$. However, at step 3, $R^2 = .65$, $\Delta R^2 = .01$, $\Delta F(1, 289) = 5.90$, $p = .016$, the two-way interactions were qualified by a three-way interaction, $b = -0.02$, $SE = 0.01$, $p = .016$.

Figure 12.

Simple Slope Analyses of Participants' Ratings of their University's Status and Prestige for Participants with Low (Left) and High (Right) Identity Centrality



As seen in Figure 12, subsequent simple-slope and conditional intercept analyses found that on average, participants with higher identity centrality rated their group as having more status and prestige than participants with lower identity centrality. Participants with lower identity centrality did not differ in their ratings of their university's status and prestige when evaluating the target student with low prototypicality regardless of group response, $b = 0.04$, $SE = 0.04$, $p = .330$. However, they rated the group as having more status and prestige when the target student had prior high prototypicality and was punished by others at their university, $b = 0.22$, $SE = 0.06$, $p < .001$. Participants with high identity centrality did not differ in their ratings of status and prestige for their university regardless of the response towards the target student nor

if they had prior low prototypicality, $b = -0.04$, $SE = 0.04$, $p = .314$, or high prototypicality, $b = 0.02$, $SE = 0.04$, $p = .650$.

Study 2 Discussion

Study 2 investigated whether the response from other group members toward a moral ingroup deviant influenced experiences of self-uncertainty and self-esteem or evaluations of the moral deviant and their group. Like Study 1, results were different depending on whether experimental conditions or manipulation checks were used to investigate results. Experimentally, there was only a main effect of identity centrality on the six outcome variables. Group members with higher identity centrality also reported greater self-uncertainty *and* greater self-esteem when confronted with a moral deviant in their group. Group members with higher identity centrality also rated the group deviant more favorably, rated their university more favorably, and thought their university had more entitativity and status and prestige. No other main effects or interactions occurred when using experimental results. Hypotheses 1 and 2 were not experimentally supported.

Results are more nuanced when using manipulation checks in lieu of experimental conditions. Most importantly, a three-way interaction occurred for group members' self-uncertainty. However, the three-way interaction was different from what was expected. In this sample, participants became more self-uncertain when they either (1) had prior high identity centrality and saw that their university punished a moral ingroup deviant, or (2) had prior low identity centrality and saw that their university punished a prototypical ingroup deviant. This result was opposite of Hypothesis 2.

Other exploratory results found three two-way interactions regarding group members' self-esteem. Group members reported higher self-esteem when they perceived that a prototypical

group member was punished by their university compared to when they were not punished. Group members with high identity centrality also reported greater self-esteem when they evaluated a prototypical group member overall. Group members with lower identity centrality reported self-esteem when they perceived that the target student was punished more.

These two-way interactions were similar to how participants evaluated the target student. Participants who thought that the moral ingroup deviant had prior low prototypicality had more favorable ratings when they were punished, but participants who thought that the moral ingroup deviant had prior high prototypicality did not differ in their evaluations of the target student. Concurrently, participants with lower identity centrality did not differ in their evaluations toward the moral ingroup deviant, but participants with higher identity centrality rated the moral deviant more favorably when they were punished.

Exploratory analyses also found a three-way interaction regarding group members' evaluations of their group. Participants with low identity centrality thought that their university had more status and prestige when they saw a highly prototypical group deviant punished by others at their university. Participants with high identity centrality did not differ in their perceptions of status and prestige based on the group deviant's perceived prototypicality or response by others at their university.

Taken together, the results from Study 2 shows that group identification is the strongest predictor of how group members respond to moral ingroup deviants. However, group identification may influence how group members perceive information and affect responses toward a moral ingroup deviant.

CHAPTER 4

General Discussion

Group members benefit from identifying with their group and the knowledge that belonging to a group provides. Group members experience increased self-esteem (Tajfel & Turner, 1986) through the belief that they are a moral person (Ellemers et al., 2013) and decreased self-uncertainty through the knowledge of who they are as a group member (Hogg, 2007, 2021). Inspired by research on the black sheep effect (J. M. Marques et al., 1988; J. M. Marques & Páez, 1994), the subjective group dynamics model (J. M. Marques, Abrams, Paez, et al., 1998), and transgression credit (Abrams et al., 2013) and similar research on moral deviance (Aguiar et al., 2017; Iyer et al., 2012; J. M. Marques et al., 2001; van der Toorn et al., 2015), the present research investigated whether group members experienced greater self-uncertainty or less self-esteem when a fellow group member commits one or more morally deviant acts within their group.

The present research hypothesized that group members would experience greater self-uncertainty and less self-esteem when faced with a moral deviant who (1) deviated multiple times or (2) was not punished by other group members. In Study 1, group members who attended a college or university rated their identity centrality with their college before evaluating a group member who committed one or more deviant acts and who either had prior low or high group prototypicality. Study 1 hypothesized that group members would experience greater self-uncertainty and less self-esteem when faced with a moral deviant who deviated multiple times. This hypothesis was not supported.

Study 1 also hypothesized a three-way interaction between how often a group deviant committed a moral violation, their prior prototypicality, and the identity centrality of the person

who evaluated the group deviant on their self-uncertainty and self-esteem. This hypothesis was supported for changes in self-esteem, such that participants who had high identity centrality and who evaluated a group deviant with prior high prototypicality reported less self-esteem when they evaluated a moral deviant who committed multiple moral violations. This three-way interaction was not found for self-uncertainty when using experimental conditions, but the three-way interaction was found when using manipulation checks that assessed how often they thought their group member committed a morally deviant act and how much prototypicality the deviant had before they cheated. When using manipulation checks, group members who identified highly with their group and who evaluated a moral deviant with prior high prototypicality reported *greater self-uncertainty* when they thought the moral deviant deviated more often. Group members who identified less strongly with their group and who evaluated a moral deviant with prior high prototypicality were *less* self-uncertain when they thought the moral deviant deviated more often.

Using a similar research design, Study 2 asked group members who attended a college or university to rate their identity centrality with their college before evaluating a group member who either had prior low or high group prototypicality and whose moral deviance was not punished or punished by other group members. Experimentally, Study 2 did not support the main effects of group response or the interactions between group response, prior prototypicality, or identity centrality. Furthermore, although exploratory analyses did find a three-way interaction when using manipulation checks, the pattern of results was different from expected. Group members with high identity centrality reported greater self-uncertainty when they saw a moral group deviant was punished regardless of whether they had prior low or high perceived prototypicality. Participants with low identity centrality experienced more uncertainty when a

group deviant they perceived to have prior high prototypicality was punished by others in their group compared to when they were not punished by other group members.

Furthermore, the present research hypothesized that the three-way interaction found in Ramdass and Hogg (2019) would conceptually replicate in Study 1 and relate to evaluations of their group overall in Studies 1 and 2. This three-way interaction was not supported when using either experimental conditions or manipulation checks. The only two-way interaction with experimental conditions across both Study 1 and 2 showed that high identifiers thought that their group had high entitativity regardless of whether they saw a prototypical or nonprototypical moral group deviant.

In terms of effect sizes for Studies 1 and 2, the strongest predictor of self-esteem and/or self-uncertainty was the participants' identity centrality. Participants with higher identity centrality reported greater self-uncertainty *and* greater self-esteem when they were told that a moral ingroup deviant was in their group—regardless of the characteristics of the group deviant or the group's response. Across both studies, the strongest predictor of group members' evaluation of a moral ingroup deviant and their group also was their identity centrality. On average, participants with higher identity centrality had more favorable ratings of a moral ingroup deviant and their university overall.

Implications of the Present Research

The present research has many implications for how group members evaluate moral deviants. Most importantly, identity centrality may be the primary influence for how group members evaluate moral deviants—or group members overall. Across both studies, a group member with higher identity centrality had greater self-uncertainty and greater self-esteem, evaluated the target deviant more favorably regardless of other relevant characteristics, and had

more favorable evaluations of their group. This research does not contradict the research on transgression credit (J. M. Marques et al., 1988; J. M. Marques & Páez, 1994) or the subjective group dynamics model (J. M. Marques, Abrams, Páez, et al., 1998). Instead, protecting the ingroup identity may be the most important motivator for how group members evaluate group deviants (Abrams et al., 2021; Aguiar et al., 2017; Iyer et al., 2012; Ramdass & Hogg, 2019, Study 1). Participants with higher identity centrality reported higher self-uncertainty, but their self-uncertainty may have reinforced their group identification (Choi & Hogg, 2020) and led them to positively evaluate a group deviant.

Importantly, the effect sizes of identity centrality were large. For the most part, participants were able to differentiate between experimental conditions in both studies. However, identity centrality may change how group members perceive group-relevant information and other group members in general. The results from the present research may be due to the large influence of identity centrality and its interaction with other predictor variables.

Regarding moral norms and moral deviance, the present research aligns more with research that shows that group members will not negatively evaluate a one-time moral deviant (Aguiar et al., 2017; Iyer et al., 2012; Ramdass & Hogg, 2019). Although people may consider morality when evaluating themselves and others (Ellemers et al., 2013; Koch et al., 2021; Leach et al., 2007), group members may consider their identity centrality when evaluating what is moral within their group. This finding supports the influence of identity centrality on how group members perceive morality and moral deviance (Ellemers et al., 2013), but the pattern of results differed from prior research (Ramdass & Hogg, 2019; van der Toorn et al., 2015).

Finally, self-uncertainty (Hogg, 2007, 2021) and self-esteem (Tajfel & Turner, 1986) are distinct. The present research showed that group members experienced greater self-uncertainty

and greater self-esteem when evaluating a group deviant. Self-uncertainty and self-esteem are not interchangeable as motives. This adds empirical support to the distinctions between what group members experience in relation to their identity centrality.

Limitations and Future Directions

The present research may have had two limitations that led to the lack of interactions between identity centrality, prototypicality, and either deviance amount or group response. First, the data were collected through Amazon.com MTurk. Although participants stated that they were traditional college students, participants were older in both studies compared to traditional college students. Participants who are nontraditional college students may have a different perspective of a group cheater in their group or whether the chosen behaviors were actual moral deviations. Alternatively, averaging results from participants across many colleges may lead to suppressed effects due to differences in norms across many colleges or universities. Future research can clarify the discrepancies in the present analyses and prior research by sampling from a single university or by investigating whether plagiarism is viewed as a morally deviant act.

Second, an unintended difference between this project and Ramdass and Hogg (2019) was the relationship between the group member and the target moral deviant. Both this dissertation and Ramdass and Hogg (2019) measured identification with their university. However, Ramdass and Hogg (2019) sampled participants from a psychology department subject pool and had them evaluate a moral deviant from their psychology department. The present research had participants evaluate a student at their university overall without stating what program they belonged to. The present research may have also been threatened by a lack of experimental realism based on collecting data from college students across MTurk and stating

that the researcher was *not* from their university. Participants may have defaulted to their general preferences for evaluation based on their identity centrality and results that more closely align with the deviant ingroup protection effect (Abrams et al., 2021). Future research might investigate whether the proximity of a moral deviant leads to the moderating effects observed in subjective group dynamics research.

Future research should also investigate the role of social influence processes on the evaluation of moral deviants and the experiences of self-uncertainty and self-esteem. This dissertation was framed by categorization processes (Turner et al., 1987) and identity subversion processes (Ditrich et al., 2017, 2019; Ditrich & Sassenberg, 2016) in response to group deviants. However, social influence processes (e.g., Gaffney et al., 2012) may differently explain the processes involved in the present research. Specifically, the ability for other group members to influence others on how to respond to a group deviant may lead a group member to feel more threat from the potential of negative consequences if they commit a morally deviant act. Future research should consider the role of social influence processes on experiences of self-uncertainty or self-esteem and evaluations of moral ingroup deviants.

Research can replicate whether nonacademic contexts may produce congruent results as found in this dissertation or results that more closely align with research on how group members evaluate group deviants based on their social identity or the perceived morality of the deviant or their moral violation. Knowing whether the same pattern replicates in nonacademic settings can help clarify the discrepancies found in the present research compared to prior published studies.

Conclusion

The present research investigated whether group members experience greater self-uncertainty or less self-esteem in response to a moral ingroup deviant. Overall, group members

with higher identity centrality experienced greater self-uncertainty and greater self-esteem when responding to a moral ingroup deviant. Researchers should consider how identity centrality affects a group member's response to a moral deviant and their overall group.

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APPENDICES

Appendix A: Identity Centrality

Participants responded to the following questions assessing identity centrality (Cameron, 2004; Grant & Hogg, 2012; Hains et al., 1997; Hogg et al., 1998)

Please name the college or university that you are a current student for here:

[text box]

[page break]

Now, please answer the following questions on a 1 (not very much) to 9 (very much) scale

1. How much do you identify with your university?
2. How important is your university to you?
3. How central do you feel your university is to your sense of who you are?
4. How often are you aware of being a member of your university?

Appendix B: Vignettes for Study 1

Vignettes based on prior research (Ramdass & Hogg, 2019) will be used to manipulate target prototypicality and how many times they committed a moral violation

All participants read the following:

Thank you. Now, we would like to assess how students view other students who could disrupt the learning process and how these actions affect your evaluations of other students.

Please spend some time and imagine that you are asked to join a committee to evaluate students at your school. Your job is to give feedback to the university about your fellow students and university overall.

We will now ask you to assess a hypothetical student from [your university]. Please click on the “next” button to continue.

[page break]

All students read the following:

On average, students at [your university] have a 3.3 GPA and participate in on-campus academic activities within their department, college, or university. Students also participate in many social events on campus with their friends and classmates.

Participants were randomly assigned to read one of four possible vignettes:

[High Prototypicality/Morally Deviated Once]

Jordan Smith is currently a sophomore at [your university]. Jordan has only attended [your university], and currently has a 3.2 GPA. Jordan attends and participates in many social and educational events on campus. On average, Jordan is similar to most other students at [your university].

You later find out that Jordan plagiarized a final paper in a recent class last semester. Jordan’s professor mentioned that this was the first and only time Jordan cheated in this class. Jordan did not cheat on any previous assignments.

[High Prototypicality/Morally Deviated Many Times]

Jordan Smith is currently a sophomore at [your university]. Jordan has only attended [your university], and currently has a 3.2 GPA. Jordan attends and participates in many social and educational events on campus. On average, Jordan is similar to most other students at [your university].

You later find out that Jordan plagiarized a final paper in a recent class last semester Jordan's professor mentioned that this was the third time Jordan cheated in this class. Jordan previously cheated on a prior homework assignment and a quiz.

[Low Prototypicality/Morally Deviated Once]

Jordan Smith is a currently a sophomore at [your university]. Jordan transferred from a nearby college last fall and currently has a 2.6 GPA. Jordan does not attend or participate in social or educational events on campus. On average, Jordan is not similar to most other students at [your university].

You later find out that Jordan plagiarized a final paper in a recent class last semester Jordan's professor mentioned that this was the first and only time Jordan cheated in this class. Jordan did not cheat on any previous assignments.

[Low Prototypicality/Morally Deviated Many Times]

Jordan Smith is a currently a sophomore at [your university]. Jordan transferred from a nearby college last fall and currently has a 2.6 GPA. Jordan does not attend or participate in social or educational events on campus. On average, Jordan is not similar to most other students at [your university].

You later find out that Jordan plagiarized a final paper in a recent class last semester Jordan's professor mentioned that this was the third time Jordan cheated in this class. Jordan previously cheated on a prior homework assignment and a quiz.

Participants then answered the following questions as a manipulation check:

To check for prototypicality (presented after the first part of the vignette)

Please answer the following questions about Jordan on a 1 (not very much) to 9 (very much) scale.

How typical is Jordan of students at [your university]?

How similar do you feel towards Jordan?

How much do you identify with Jordan as a fellow student at [your university]?

To check for cheating behavior (presented after the second part of the vignette)

Please answer the following question based on what you just read

1. Based on what you read, how many times did Jordan cheat in their recent class?
 - a. 1 time
 - b. 2 times
 - c. 3 times
 - d. 4 or more times

Appendix C: Identity Uncertainty

Participants rated their identity-uncertainty using three questions from a measure of social identity uncertainty (Wagoner et al., 2017). They answered the following:

These pages will ask you about your current uncertainty as a member of [your university].

Please answer them on a 1 (not very much) to 9 (very much scale)

1. I am uncertain about what it means to be a student at my university.
2. I feel uncertain about what being a student at my university stands for.
3. I feel uncertain about the characteristics that define being a member of my university.

Appendix D: Self-esteem

Participants completed the positive items of the Brief Rosenberg Self-esteem Scale (Rosenberg, 1965)

This page will have similar questions regarding your current self-esteem. Please answer the following questions on a 1 (strongly disagree) to 9 (strongly agree) scale.

1. On the whole, I am satisfied with myself.
2. I feel that I have a number of good qualities.
3. I am able to do things as well as most other people.
4. I feel that I am a person of worth, at least on an equal plane with others.
5. I take a positive attitude towards myself.

Appendix E: Student and University Evaluations

Participants rated the target student and their university on the following semantic differentials based on Koch and Colleagues' (2021) rating framework

Now, please evaluate Jordan based on the following dimensions below.

1. Morality
 - a. Dishonest or Honest
 - b. Untrustworthy or Trustworthy
 - c. Immoral or Moral
2. Friendliness
 - a. Unlikeable or Likeable
 - b. Cold or Warm
 - c. Unfriendly or Friendly
3. Agency
 - a. Incompetent or Competent
 - b. Unintelligent or Intelligent
 - c. Unskilled or Skilled
4. Assertiveness:
 - a. Unassertive or Assertive
 - b. Unambitious or Ambitious
 - c. Hesitant or Determined

[Page break]

Now, please evaluate students from [your university] based on the following dimensions below.

1. Morality
 - a. Dishonest or Honest
 - b. Untrustworthy or Trustworthy
 - c. Immoral or Moral
2. Friendliness
 - a. Unlikeable or Likeable
 - b. Cold or Warm
 - c. Unfriendly or Friendly
3. Agency
 - a. Incompetent or Competent
 - b. Unintelligent or Intelligent
 - c. Unskilled or Skilled
4. Assertiveness:
 - a. Unassertive or Assertive
 - b. Unambitious or Ambitious
 - c. Hesitant or Determined

Appendix F: Entitativity

Entitativity was measured using a three-item entitativity scale (Blanchard et al., 2020).

Now, in thinking about you and your university, please answer the following questions on a 1 (strongly disagree) to 9 (strongly agree) scale.

1. We are a unit.
2. We are a group.
3. We feel like a group to me.

Appendix G: Group Status and Prestige

Group status and prestige was measured using questions developed for the present research

Please answer the following questions on a 1 (strongly disagree) to 9 (strongly agree) scale.

1. People respect students from [your university].
2. People think that students from [your university] have high status.
3. Students from [your university] have a positive reputation.
4. Others usually admire students from [your university].

Appendix H: Demographic Questions:

Participants answered the following demographic questions

1. What is your current age? [text box]
2. What is your biological sex?
 - a. Male
 - b. Female
 - c. Intersex
 - d. Prefer to self-describe
 - e. Prefer not to say
3. Which of the following best describes you?
 - a. Asian or Pacific Islander
 - b. Black or African American
 - c. Hispanic or Latino
 - d. Native American or Alaskan Native
 - e. White or Caucasian
 - f. Multiracial or Biracial
 - g. A race or ethnicity not listed here.

[Next page]

The following two questions are for data cleaning and quality purposes. Having good quality data allows me to trust my results and post future studies on crowdsourcing platforms. You will be paid the full rate for your participation in this study regardless of how you answer these questions.

1. How much attention did you pay during this study?
 - a. All of my attention
 - b. Most of my attention
 - c. Some of my attention
 - d. None of my attention
2. Which of the following statements best describes you?
 - a. I am a current student at a college or university
 - b. I am a graduate from a college or university
 - c. I have attended some college or university classes but am not currently enrolled in a college or university
 - d. I have not attended any college or university

Appendix I: Vignettes for Study 2

Vignettes based on prior research (Ramdass & Hogg, 2019) were used to manipulate target prototypicality and how many times they committed a moral violation

All participants read the following:

Thank you. Now, we would like to assess how students view other students who could disrupt the learning process and how these actions affect your evaluations of other students.

Please spend some time and imagine that you are asked to join a committee to evaluate students at your school. Your job is to give feedback to the university about your fellow students and university overall.

We will now ask you to assess a hypothetical student from [your university]. Please click on the “next” button to continue.

[page break]

All students read the following:

On average, students at [your university] have a 3.3 GPA and participate in on-campus academic activities within their department, college, or university. Students also participate in many social events on campus with their friends and classmates.

Participants were randomly assigned to read one of four possible vignettes:

[High Prototypicality/Group Condemns]

Jordan Smith is currently a sophomore at [your university]. Jordan has only attended [your university], and currently has a 3.2 GPA. Jordan attends and participates in many social and educational events on campus. On average, Jordan is similar to most other students at [your university].

You later find out that Jordan plagiarized a final paper in a recent class last semester. Jordan’s professor punished Jordan for plagiarism on the final paper, and Jordan’s classmates stated that Jordan deserved any punishment that the class, department, or university prescribed in response to plagiarism.

[High Prototypicality/Group Condones]

Jordan Smith is currently a sophomore at [your university]. Jordan has only attended [your university], and currently has a 3.2 GPA. Jordan attends and participates in many social and educational events on campus. On average, Jordan is similar to most other students at [your university].

You later find out that Jordan plagiarized a final paper in a recent class last semester Jordan's professor did not punish Jordan for plagiarism, and Jordan's classmates stated that Jordan does not deserve any punishment that the class, department, or university prescribed in response to plagiarism.

[Low Prototypicality/Group Condemns]

Jordan Smith is a currently a sophomore at [your university]. Jordan transferred from a nearby college last fall and currently has a 2.6 GPA. Jordan does not attend or participate in social or educational events on campus. On average, Jordan is not similar to most other students at [your university].

You later find out that Jordan plagiarized a final paper in a recent class last semester Jordan's professor punished Jordan for plagiarism on the final paper, and Jordan's classmates stated that Jordan deserved any punishment that the class, department, or university prescribed in response to plagiarism.

[Low Prototypicality/Group Condone]

Jordan Smith is a currently a sophomore at [your university]. Jordan transferred from a nearby college last fall and currently has a 2.6 GPA. Jordan does not attend or participate in social or educational events on campus. On average, Jordan is not similar to most other students at [your university].

You later find out that Jordan plagiarized a final paper in a recent class last semester Jordan's professor did not punish Jordan for plagiarism, and Jordan's classmates stated that Jordan does not deserve any punishment that the class, department, or university prescribed in response to plagiarism.

Participants answered the following questions as a manipulation check:

To check for prototypicality (presented after the first part of the vignette)

Please answer the following questions about Jordan on a 1 (not very much) to 9 (very much) scale.

1. How typical is Jordan of students at [your university]?
2. How similar do you feel towards Jordan?
3. How much do you identify with Jordan as a fellow student at [your university]?

To check for group response (presented after the second part of the vignette)

Please answer the following question based on what you just read

1. Based on what you read, did others from [your university] condemn or condone Jordan's behavior? (1 = *condoned*, 9 = *condemned*)
2. Based on what you read, did others from [your university] not punish or punished Jordan's behavior? (1 = *did not punish*, 9 = *did punish*)