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Activation of Meta-stereotypes and Prejudice: The Moderating Role of Self-compassion During Perspective-taking

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The Moderating Role of Self-compassion During Perspective-taking

By

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Master's Thesis

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Haley Bock

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A Thesis
Presented to
The Faculty of
Western Washington University

In Partial Fulfillment
Of the Requirements for the Degree
Master of Science

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Abstract

Although perspective-taking has been used to reduce negative attitudes toward social outgroups (see Todd & Galinsky, 2014), there are contexts where perspective-taking may backfire. When perceivers expect to interact with the outgroup target they imagine the perspective of, they have been shown to have an increase in meta-perceptual concerns, *meta-stereotypes*, which can draw perceivers away from imagining the perspective of the target and toward concerns for how they are being perceived. The current study (N = 193) examined whether different kinds of perspective-taking (imagine-self, imagine-other) influenced attitudes towards marginalized groups and whether such effects were moderated by perceivers' individual levels of *self-compassion*, a positive and balanced disposition towards oneself. Results revealed that although self-compassion did not moderate the effect of perspective-taking on attitudes towards marginalized groups, self-compassion moderated the effect of perspective-taking on reaction time to meta-stereotype words (among other stimuli) during a lexical decision-making task. Specifically, individuals high in self-compassion responded faster to words (e.g., *prejudiced, thoughtful*) and non-words when perspective-taking relative to those who received no instructions. Such results have implications for the utility of perspective-taking in anticipated intergroup interactions and provide clues as to what individual difference indicators may influence its cognitive and emotional implications.

Keywords: perspective-taking, intergroup interactions, meta-stereotypes, self-compassion

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The Moderating Role of Self-compassion During Perspective-taking

Perspective-taking interventions have been used to increase empathic and prejudice-reducing responses by majority group members towards outgroup members (Todd & Galinsky, 2014). However, the effects of such perspective-taking interventions have not always been demonstrated within actual or anticipated intergroup interactions in which perceivers are involved (Vorauer et al., 2009). Specifically, perspective-taking interventions may backfire due to the activation of *meta-stereotypes,* beliefs ingroup members have about how outgroup members perceive them. The current study was designed to investigate how self-compassion, a balanced and positive disposition towards oneself, may reduce the negative effects posed by meta-stereotypes within attempts to reduce prejudice via perspective-taking.

Perspective-Taking & Prejudice Reduction

Perspective-taking, known colloquially as "walking in someone else's shoes," is a mindset intervention in which a perceiver imagines another person's emotions and experiences (Batson et al., 1997b). Such interventions have been shown to induce empathy for the target (i.e., subject of perspective-taking), and this empathy can have positive implications for stigmatized or marginalized targets (e.g., Dovidio et al., 2010). Perspective-taking interventions have stimulated altruistic behavior, including approach-oriented and helping behavior toward outgroup members (Finlay & Stephan, 2000). Perspective-taking interventions have also been shown to attenuate both outgroup stereotype expression and ingroup bias (Galinsky & Moskowitz, 2000). Likewise, perspective-taking interventions can decrease *stereotypic explanatory bias*, the inclination of ingroup members to attribute outgroup stereotypic-consistent behaviors to dispositional factors and outgroup stereotype-inconsistent behaviors to non-dispositional factors (Todd et al., 2012).

Beyond influencing maintenance of outgroup stereotypes, imagining an outgroup member's perspective has been shown to reduce prejudice towards outgroups. For example, participants instructed to imagine the perspective of a Black man experiencing discrimination in a video later reported more positive racial attitudes compared to those who were instructed to remain as objective as possible (i.e., an objective focus) or who were given no instructions (Dovidio et al., 2004). Further, imagining an Asian American target's perspective in a movie clip decreased subsequent discriminatory behavior towards Asian American confederates to a level more consistent with behavior towards White confederates shown in the control and perspective-taking conditions (Shih et al., 2009). Perspective-taking interventions have also shown that these effects persist beyond the initial manipulation, where subjects' positive evaluations of outgroups have been observed as many as eight weeks later (Batson et al., 1997a; Todd & Burgmer, 2013).

Drawing from several cognitive processes, perspective-taking includes what is called the *self-other overlap* (Myers & Hodges, 2012; Sassenrath et al., 2016). The self-other overlap is the process by which one sees more of oneself in others. This is to say, the distinctions of what makes the self unique from the other are less pronounced, allowing for the self to see traits usually only attributed to oneself in others. The positive implications of perspective-taking are in part due to this overlap, where self-serving and self-favoring biases of the perspective-taker are extended to the target (Aron et al., 1991). For instance, young participants instructed to take the perspective of an older adult used more of the same traits used to describe themselves when asked to describe older adults in general compared to the control group (Galinsky & Moskovitz, 2000). Outside of explicit measures, the self-other overlap has also been identified in self-other implicit associations, where perspective-takers expressed more implicit associations between themselves and the target than those in the control group (Todd et al., 2011).

There are two distinct ways to imagine another's perspective: when subjects imagine themselves as the target (referred to as *imagine-self* perspective-taking) or when subjects imagine only how the target thinks and feels (referred to as *imagine-other* perspective-taking; Todd & Galinsky, 2014). For example, if one walks by a homeless person on the street, one can either imagine themselves as if *they* were that homeless person (imagine-self) or simply imagine how that homeless person thinks and feels (imagine-other).

A growing body of research has demonstrated that focusing on the self versus focusing on the other can elicit different intergroup outcomes within different contexts. Notable work (e.g., Dovidio et al., 2004; Galinsky & Moskovitz, 2000; Todd et al., 2012) has asked participants to imagine the perspective of a target in an imaginary situation (e.g., through vignettes, videos). In the context of imaginary situations, imagine-self and imagine-other perspective-taking have demonstrated comparable outcomes, such as increase in empathic emotions (Finlay & Stephan, 2000) and reduction in implicit expressions of racial bias toward outgroup targets (Todd et al., 2011). However, these analogous outcomes have not always been observed when applied within contexts characterized by a real potential for evaluation (e.g., intergroup interactions; Sassenrath et al., 2016; Vorauer & Sasaki, 2014; Vorauer & Sucharyna, 2013).

Contexts that involve an actual or anticipated intergroup interaction can cause imagine-other perspective-taking to backfire, reversing the otherwise positive association between perspective-taking interventions and positive intergroup attitudes (Vorauer, 2013). Unlike imaginary situations, perspective-taking within live or anticipated intergroup interactions leads perceivers to wonder how the outgroup target views them and can lead to the activation of *meta-stereotypes* (Vorauer et al., 2009).

Meta-stereotypes are inferences perceivers make about how outgroup targets may evaluate them. For example, many White people share a belief that people of color view them as prejudiced. As such, when White perceivers interact with racial outgroup targets, these negative meta-stereotypes can lead the perceiver to feel apprehensive over whether the target sees them as prejudiced. For example, Vorauer et al. (2000) showed that when White Canadian participants anticipated interacting with Indigenous Canadians, they completed more words like *racist* and *bigot* in a word fragment completion task compared to those who only imagined seeing an Indigenous Canadian in the newspaper or on TV. This finding is consistent with the idea that these stereotypic traits were activated and accessible only when participants were in conditions with a potential for evaluation.

Meta-stereotype activation has been shown to occur when perceivers are asked to imagine the unique perspective of the target (imagine-other) rather than how they themselves would feel and think in the target's position (imagine-self; Vorauer & Sasaki, 2014). When perceivers imagine the target's perspective, they find themselves outside of their own point of view with a novel ability to see themselves from a different vantage point. Although this new vantage point can be enlightening, it can also be threatening, when the tendency toward self-focused attention draws perceivers to think about how the target views them. Especially in situations where perceiver and target are unfamiliar with each other, perceivers are likely to draw upon meta-stereotypes to assess how the target may view them (Vorauer & Sucharyna, 2013).

Activation of meta-stereotypes within imagine-other perspective-taking can be particularly harmful for the efficacy of perspective-taking interventions that are used to reduce prejudice. Vorauer and Sasaki (2014) demonstrated that when White Canadian participants imagined a Chinese Canadian's perspective (imagine-other) during an anticipated interaction,

they subsequently reported more negative attitudes towards ethnic minorities compared to those who were instructed to imagine themselves in the Chinese Canadian's position (imagine-self) or who were given no instructions. Further, participants in the imagine-other perspective-taking condition were quicker to report meta-stereotype letter strings as words (e.g., *close-minded, prejudiced*) in a lexical decision-making task compared to those in the imagine-self or no instructions condition, suggesting that the imagine-other condition uniquely activated meta-stereotypes. In combination, these findings suggest that imagining an outgroup target's perspective may hinder the effectiveness of perspective-taking interventions when applied within an intergroup interaction.

Self-compassion

Some individuals may be better equipped to deal with activation of meta-stereotypes than others. Meta-stereotypes can be activated when perceivers are concerned with being evaluated during an intergroup interaction, leading perceivers to worry about whether the target sees them as prejudiced. Thus, perceivers who are more comfortable with feeling uncertain about their social standing may be at an advantage within this context. Individuals can embrace this uncertainty in a variety of ways, one being through self-compassion.

Self-compassion is an emotionally positive attitude towards the self that counters tendencies toward egoist traits, such as narcissism and self-centeredness (Neff, 2003a). Appreciated in Western conceptualizations of mindfulness, self-compassion encompasses awareness and nonjudgement of one's own suffering as foundation for seeing pain as part of a collective human experience (Fuochi et al., 2018). Following personal failure, self-compassion buffers individuals from excessive self-criticism, isolation, and rumination, in resemblance to the compassionate support one would offer to a friend (Neff, 2003a). Self-compassion is also not

dependent on feelings of self-worth, such that those that are self-compassionate believe that all humans (themselves included) are deserving of compassion and understanding regardless of whether they perceive themselves to be worthy (e.g., to be intelligent or attractive; Neff, 2003a).

Self-compassion is composed of three elements: self-kindness vs. self-judgement, common humanity vs. isolation, and mindfulness vs. overidentification (Neff, 2003a). Although the three elements can be experienced independently, they can also interact to enhance and support each other. All three elements can be applied to various personal challenges, such as concerns over being perceived as prejudiced during an intergroup interaction.

Self-kindness involves extending kindness towards oneself instead of criticism amid hardship and may be helpful when one is concerned over being perceived as prejudiced during an intergroup interaction. When perceivers are worried about how they are being viewed by the target during their interaction, they may resort to criticizing themselves for behavior that could potentially confirm the meta-stereotype (e.g., word choice, body language; Vorauer, 2006). In contrast, one who can be kind to oneself has the potential to look past this apprehension to recognize that one is being overly hard on oneself.

Belief in common humanity helps one to correct the impulse to isolate oneself in inadequacy and instead view the self as part of a collective that is innately imperfect and capable of mistakes. When applied to the self-other overlap (i.e., process of seeing oneself in others), belief in common humanity may increase a perceiver's likelihood of seeing personal qualities in outgroup targets during a perspective-taking intervention. Such a tendency may help perceivers to see more similarities between themselves and the target, possibly easing discomfort about interacting with the target. Additionally, belief in common humanity may support a perceiver to resist isolating themselves in feelings of concern for how they are viewed when perceivers are

concerned with being evaluated by the target, offsetting the threat posed by meta-stereotype activation during imagine-other perspective-taking.

Mindfulness involves having a balanced awareness of one's negative thoughts and feelings without overidentifying with them. When perceivers may be apprehensive over being perceived as prejudiced during an intergroup interaction, mindfulness can play a protective role. Particularly, mindfulness counters self-rumination (i.e., negative, persistent self-focus). When one experiences a painful thought, such as a negative meta-stereotype, mindfulness inspires one to accept that thought with a balanced awareness in place of rumination. Rumination of negative thoughts and emotions leads one to have an intense, emotional resistance to the pain it causes, leading to over-identification (Neff, 2003a). Perceivers high in mindful self-compassion may instead observe the concern over being viewed as prejudiced as impersonal, being less likely to ruminate and over-identify with it, thus allowing them more opportunity to focus on the perspective-taking intervention than those low in mindful self-compassion.

Current Study

In the current study, participant reports of opposition to equality (a measure of attitudes towards marginalized groups and anti-racist redistributive policies) were evaluated following a perspective-taking intervention during an anticipated (and ostensible) intergroup interaction. Prior to the intervention, participants completed a measure of self-compassion and ally identity[1] (covariate). Then, participants were randomly assigned to one of three perspective-taking

[1] In addition to self-compassionate individuals who may be more resistant to the influence of meta-stereotype activation, there may be individuals who already have positive intentions for and attitudes towards marginalized groups. People who see themselves as allies to marginalized groups (who have a strong sense of *ally identity*) have knowledge about marginalized groups as well as strong social justice intentions (Jones et al., 2014). Such individuals were expected to already adopt more positive intergroup attitudes and were of interest to account for (in relation to perspective-taking, meta-stereotype activation, self-compassion) the current study, therefore, participants were measured for ally identity with the intention of using ally identity as a covariate in subsequent analyses.

conditions (*imagine-self, imagine-other*, and *no instructions control*) and led to believe they would be interacting with an outgroup target (a Black student). Finally, participants completed a lexical decision-making task (as a measure of meta-stereotype activation), a measure of opposition to equality, and an attention check (to determine if they correctly remembered the race of the outgroup target).

Hypotheses[2]

Lexical Decision-Making Task

H_1: Because past research (e.g., Vorauer & Sasaki, 2014) has established an association between imagine-other perspective-taking and meta-stereotype activation, participants within the imagine-other perspective-taking condition were expected to respond faster to meta-stereotype words (e.g., *cruel*, *entitled*) in the lexical decision-making task than both imagine-self and control conditions. I predicted this effect would not be moderated by self-compassion.

Opposition to Equality

H_{2a}: Provided previous findings that suggest imagine-self perspective-taking reduces subsequent reports of prejudice (e.g., Todd & Galinsky, 2014, Vorauer & Sasaki, 2014), participants in the imagine-self condition were expected to report less opposition to equality than those in the control condition.

H_{2b}: Vorauer and Sasaki (2014) have shown that imagine-other perspective-taking can backfire within an actual or anticipated intergroup interactions and lead to prejudice compared to imagine-self and control conditions. However, this effect was expected to be moderated by participants' level of self-compassion such that only at low levels of self-compassion does imagine-other perspective taking increase opposition to equality; among participants high in self-

[2] All hypotheses and analyses were preregistered at Open Science (osf.io/6vq5n) prior to data collection.

compassion, an imagine-other perspective was not expected to increase opposition to equality. Additionally, in line with previous research (i.e., Fuochi et al., 2018) that showed that self-compassion is associated with positive intergroup attitudes, higher reports of self-compassion were expected to be associated with less opposition to equality.

H_3: We predicted that meta-stereotype activation would mediate the effect of imagine-other perspective-taking on opposition to equality, such that imagine-other perspective-taking only increases prejudice when meta-stereotypes are activated. However, we also predicted that self-compassion would moderate this effect of meta-stereotype activation on opposition to equality. This is to say, the effect of meta-stereotype activation on opposition to equality would depend on participants' level of self-compassion, where at low levels of self-compassion meta-stereotype activation should predict more opposition to equality, and at high levels of self-compassion, meta-stereotype activation should not predict more opposition to equality. Characteristics of self-compassion, such as the ability to counter self-rumination and criticism, favor that its role in the model should be following activation of meta-stereotypes rather than before. Figure 1 displays this theorized process model.

Method

Participants

Two power analyses using G Power and the shiny package in R Studio (Chang et al., 2021) were run to establish the desired sample size. To determine sample size for the interaction of meta-stereotype activation and self-compassion predicting opposition to equality, a power analysis based on an effect size of .04 (partial R^2) reported that a total of 266 participants would be sufficient to obtain 80% power at an alpha level of .05. An effect size of .04 is consistent with small effects found in Vorauer and Sasaki (2014) and self-compassion literature (e.g., Fuochi et

al., 2018). A second power analysis was run to determine the required sample size for the mediation. Drawing from standardized path coefficients from similar trends in Vorauer and Sasaki (2014), .22, .20, and -.29 were inputted for a, b, and c' paths, respectively. Monte-Carlo simulations determined 232 participants sufficient to run the analysis with 80% power. Based on both power analyses, the total desired number of participants was rounded up to 300 to provide a margin for any participants who must be excluded from subsequent analyses (e.g., participants who failed the attention check).

Due to constraints of in-person data collection[3], a total of 200 White/European American identifying students[4] were recruited from Western Washington University's SONA subject pool. Sample size was reduced to 193 after excluding participants who did not meet inclusion criteria (e.g., failed the attention check, expressed suspicion of their "interaction partner"). The final sample identified as mostly female (55.40% female, 33.68% male, 9.84% non-binary, and 1.08% other) and had a mean age of 20.61. Participants leaned liberal politically (M = 5.50, SD = .99, range 1 = *Extremely Conservative* – 7 = *Extremely Liberal*). All participants were granted course credit as compensation for their participation in this study.

Materials

Ally Identity (Covariate)

To measure ally identity, participants filled out the Ally Identity Measure (AIM; Jones et al., 2014) shortened and adapted for general attitudes towards marginalized groups (e.g., replacing LGBT labels with "marginalized groups"). This scale was used as a covariate in subsequent analyses, as it was of interest to investigate whether self-compassion and perspective-

[3] In-person data collection limitations are discussed in more detail in the discussion section of this paper.
[4] Racial and ethnic minorities were excluded from data collection as past research and hypotheses only applied to White perceivers.

taking could predict opposition to equality accounting for someone's baseline allyship intentions (ally identity). The adapted AIM included nine items (α = .80). Sample items included *I know of organizations that advocate for marginalized groups* and *I try to increase my knowledge about marginalized groups*. All items were scored on a one to seven Likert scale (*1 = Strongly disagree, 7 = Strongly agree*). The total scores for ally identity were calculated by averaging scores for all nine items.

Self-compassion

Participants filled out the short form of the self-compassion scale (SCS-SF; Neff, 2003b) that was framed in the context of interpersonal interactions. The SCS-SF includes three subscales that pertain to the three elements of self-compassion (self-kindness vs. self-judgement, common humanity vs. isolation, and mindfulness vs. overidentification) (overall α = .80). Sample items included *In social settings…I try to see my failings as part of the human condition*. All items were scored on a one to five unipolar scale (*1 = Almost Never, 5 = Almost Always*). Negative items, such as *In social settings…I'm disapproving and judgmental about my own flaws and inadequacies*, were reversed and averaged to determine the overall score, with higher scores indicating higher levels of self-compassion within the context of interpersonal interactions.

Lexical Decision-Making Task

Participants also completed a lexical decision-making task using MediaLab software. Lexical decision-making tasks are implicit tasks designed to reflect whether certain content is more (or less) cognitively accessible (i.e., "top of mind") by measuring the amount of time it takes to label letter strings as words or non-words. For example, faster labeling of the word, *entitled*, as a word indicates that the trait is more cognitively accessible than slower labeling and suggests that the person might be concerned about appearing entitled (in the context of the

current study). The task included 60 trials, 30 words and 30 non-words. Of the 30 words, there were 10 meta-stereotype words (e.g., *prejudiced, defensive*), 10 negative stereotype-irrelevant words (e.g., *possessive, frighten*), and 10 positive fillers (e.g., *pleasant, thoughtful*). All words were matched for length and frequency of use. Average response times were computed for each word index, with lower scores in the meta-stereotype response time index indicating more meta-stereotype activation than higher scores. Responses longer than 2 seconds (3% of responses) were not included in analyses based on procedure used in Vorauer et al. (2000).

Opposition to Equality

Opposition to equality was measured using items tested in a pilot study to be sensitive to the kinds of social justice attitudes Western students are known to have. The measure included items involving attitudes towards anti-racist distributive policies and marginalized groups in the United States and was used relative to other measures (e.g., Modern Racism Scale) to avoid a potential ceiling effect. In total, there were eight items (α = .83) with sample items including *Reparations (i.e., compensation for abuse/injury) should be made for those whose ancestors were enslaved* (reversed) and *Hate against Asian Americans during the COVID-19 pandemic has increased, but not as much as people say it has*. All items were scored on a one to seven Likert scale (*1 = Strongly Disagree, 7 = Strongly Agree*). Negative items were first reversed and then averaged with the positive items to determine the overall score, with higher scores indicating greater opposition to equality.

Attention Check

To determine whether participants correctly remembered the outgroup target's race (confirming they were expecting an intergroup vs. intragroup interaction), an attention check was administered at the end of the study. Within this attention check, participants responded to 4

true/false items about the "other participant." One item, *They are Black/African American* was hid amongst other items, such as *Their favorite season is Fall,* to identify whether participants correctly remembered the "other participant's" race. This attention check was used as exclusion criteria, such that anyone who answered "False" was excluded from the final sample (2 participants).

Procedure

The procedure was modeled after Vorauer and Sasaki (2014), which similarly investigated perspective-taking, meta-stereotype activation, and intergroup attitudes. Participants arrived individually in the laboratory for a study called "Perceptions of first-meeting interactions." The experimenter told them that they have a partner in the study who will be in another room (although this partner did not exist and was only referred to through the experimenter). Then, survey instructions explained that the researcher was especially interested in interracial interactions. Survey instructions also explained that the participant would first exchange written personal information with their partner via the experimenter and then meet their partner later for a face-to-face discussion of "a range of personal, social, and political issues, including relations between different ethnic groups in American society."

Participants first filled out demographic measures, including a "brief personal information sheet" that included demographic indicators (e.g., race/ethnicity, gender) and questions about their personal qualities (e.g., "What personal qualities are important to how you see yourself?" "What is your favorite season? Why?"). Participants then completed a measure of ally identity (AIM; Jones et al., 2014) and self-compassion (in the context of interpersonal interactions, SCS-SF; Neff, 2003b). While taking the personal information sheet from them, the experimenter then told participants that they would soon return with their partner's completed

sheet. The partner's sheet indicated that they were the same gender as the participant as well as Black[5] and their answers to the personal qualities and trivia were consistent with the kinds of answers college students would be expected to provide for such questions (see Appendix B). Once given their partner's sheet, participants were asked to take a couple of minutes to look over it.

Participants randomly assigned to the imagine-self perspective-taking condition watched a brief instructional video asking them to "put themselves in their partner's position" during the rest of their exchange with their partner. Participants randomly assigned to the imagine-other perspective-taking condition watched a brief instructional video asking them to "take their partner's unique perspective" during the rest of their exchange. Participants in the control condition received no additional instructions. Appendix B contains information regarding these conditions and their instructions. Following this video, participants then completed the lexical decision-making task and a measure of opposition to equality. Then, the experimenter informed participants that their interaction partner "experienced a computer error" where their data was lost, and that there would be no meeting interaction. Participants were debriefed in a follow-up debriefing process after all data was collected and analyzed.

Results

Table 1 displays means, standard deviations, and bivariate correlations for all self-report measures. All continuous predictor and covariate variables were first assessed for normality. As the ally identity composite was negatively skewed, a version of the composite was log transformed to meet assumptions of normality as well as back transformed for interpretation[6]. All

[5] Based on the results from the pilot test, White Western students believed that Black students were the most likely to view White students as racist relative to other racial/ethnic groups (e.g., Asian).
[6] Analyses were run with and without transforming the allyship identity measure. Results did not differ based on this alteration, so subsequent results are the result of the un-transformed variable.

analyses were conducted in R Studio (v4.0.3; R Core Team, 2020), including packages reghelper (Hughes, 2021), lm.beta (Behrendt, 2014), lavaan (Rosseel, 2012), and processR (Moon, 2021). Using multiple regression, meta-stereotype activation and opposition to equality were regressed on perspective-taking, dummy coded such that the no instructions control was the comparison group (no instructions control = 0, imagine-self = 1, imagine-other = 2), and self-compassion (centered). Interactions were probed with simple slope analyses at high (+1 SD) and low (-1 SD) levels of self-compassion. Ally identity was included as a covariate for all analyses.

Meta-stereotype Activation

Analysis of the lexical decision-making task followed procedure in Vorauer et al. (2000). Of the 5,760 judgments participants made on the 30 target words, 153 (3%) exceeded the 2-second limit and 84 (1%) were inaccurate (e.g., reporting a word as a non-word). These trials were excluded from subsequent analyses. Means were computed for each word category (*meta-stereotype, negative, positive*). Responses that were 2.5 standard deviations above the mean for any given word were excluded as well (8% of responses). Analyses confirmed that the number of accurate responses did not vary across condition for meta-stereotype or negative words (*p*s > .123)[7].

Meta-stereotype Words

Marginally statistically significant main effects of imagine-self (β = -.16, p = .071) and statistically significant main effects of imagine-other (β = -.19, p = .030) perspective-taking emerged. This is somewhat consistent with predictions (see H_1), such that relative to the control condition, those in either perspective-taking condition were more concerned with how they

[7] Results indicated that accuracy (e.g., reporting a word as a word vs. a non-word) did vary by condition for positive words, $F(2,189) = 3.27$, $p = .040$. Tukey's HSD revealed that there was a difference in accuracy between imagine-self and control conditions, where people in the imagine-self condition were less accurate than those in the control condition ($p = .031$).

would be perceived (e.g., as prejudiced) by the outgroup target. There was also no statistically significant main effect of self-compassion (β = .20, p = .169). Contrary to predictions, however, there was a marginally statistically significant perspective-taking X self-compassion interaction with imagine-self (β = -.22, p = .054), but not imagine-other (β = -.15, p = .171) perspective-taking (see Figure 2). This is to say, the effect of imagine-self perspective-taking on reaction time to meta-stereotype words depended on individual levels of self-compassion, adj R^2 = .02, F(6, 185) = 1.55, p = .160. Simple slope tests revealed that of individuals high on self-compassion, those in imagine-self perspective-taking conditions were faster to respond to meta-stereotype words than those who received no instructions (t(185) = -2.52, SE = 31.43, p = .013). When looking at those that are low in self-compassion, neither those in imagine-self (t(185) = .15, SE = 28.07, p = .879) or imagine-other (t(185) = -.55, SE = 30.57, p = .586) perspective-taking conditions were different in response rate to meta-stereotype words than those who received no instructions. Such results are consistent with the idea that meta-stereotype words were more accessible for those high in self-compassion when perspective-taking relative to those who received no instructions.

Negative Words

Surprisingly, a similar pattern was revealed for reactions times associated with negative words. There were statistically significant main effects of both imagine-self (β = -.17, p = .045) and imagine-other (β = -.18, p = .041) perspective-taking predicting reaction times to negative words, such that relative to the control condition, those in imagine-self or imagine-other perspective-taking conditions responded to negative words faster. This finding would indicate that the content of evaluative concerns experienced by perspective-takers were more generally negative than specific to meta-stereotypes. There was no statistically significant main effect of

self-compassion (β = .22, p = .120). Interestingly, again, there were also statistically significant and marginal perspective-taking X self-compassion interactions, such that the effect of imagine-self (β = -.27, p = .017) and imagine-other (β = -.20, p = .072) perspective-taking on reaction times to negative words depended on individual levels of self-compassion, adj R^2 = .03, F(6, 185) = 1.98, p = .071. Figure 3 displays the graph of these interactions. Simple slope tests revealed that of individuals high on self-compassion, those in the imagine-self (t(185) = -2.98, SE = 35.38, p = .003) or imagine-other (t(185) = -2.74, SE = 34.38, p = .007) perspective-taking conditions were faster to respond to negative words than those who received no instructions. This result is consistent with the idea that for participants high in self-compassion, negative words were more accessible for perspective-takers relative to those who received no instructions. For those low in self-compassion, neither those in imagine-self (t(185) = .36, SE = 31.59, p = .721) or imagine-other (t(185) = -.16, SE = 34.41, p = .876) perspective-taking conditions were different in response rate to negative words than those who received no instructions.

Positive Words

Even more surprising, similar patterns were revealed for reactions times associated with positive words. There were no statistically significant main effects of either imagine-self (β = -.14, p = .114) or imagine-other (β = -.13, p = .134) perspective-taking predicting reaction times to positive words. There was also no statistically significant main effect of self-compassion (β = .23, p = .104). As with meta-stereotype and negative words, there were statistically significant perspective-taking X self-compassion interactions (see Figure 4), such that the effect of imagine-self (β = -.26, p = .021) and imagine-other (β = -.25, p = .030) perspective-taking on reaction time to positive words depended on individual levels of self-compassion, adj R^2 = .02, F(6, 185) = 1.81, p = .099. Simple slope tests revealed that of individuals high on self-compassion, those in

the imagine-self ($t(185) = -2.64$, $SE = 34.28$, $p = .009$) or imagine-other ($t(185) = -2.63$, $SE = 33.32$, $p = .009$) perspective-taking conditions were faster to respond to positive words than those who received no instructions. This result is consistent with the idea that for participants high in self-compassion, positive words were more accessible for perspective-takers relative to those who received no instructions. When looking at those that are low in self-compassion, neither those in imagine-self ($t(185) = .62$, $SE = 30.61$, $p = .538$) or imagine-other ($t(185) = .51$, $SE = 33.34$, $p = .611$) perspective-taking conditions were different in response rate to positive words than those who received no instructions.

Relative Meta-stereotype Activation

Following procedure in Vorauer and Sasaki (2014), an index of relative meta-stereotype activation was computed by subtracting meta- from negative-stereotype irrelevant activation, such that higher numbers reflected faster reaction times to meta-stereotype words. There were no statistically significant main effects on this index of self-compassion ($\beta = .08$, $p = .601$), imagine-self ($\beta = -.12$, $p = .516$), or imagine-other ($\beta = -.01$, $p = .868$) perspective-taking. Additionally, there was no perspective-taking X self-compassion interaction, such that the effect of imagine-self ($\beta = -.12$, $p = .280$) or imagine-other ($\beta = -.10$, $p = .374$) perspective-taking on relative meta-stereotype activation did not depend on individual levels of self-compassion, adj $R^2 = -.02$, $F(6, 185) = .45$, $p = .843$.

Non-words

To examine whether this effect was only occurring for words (vs. non-words), non-words were regressed on self-compassion and perspective-taking conditions. Similar patterns were revealed: There was no statistically significant main effect of imagine-self ($\beta = -.12$, $p = .152$) perspective-taking, but there were statistically significant main effects of self-compassion ($\beta =$

.40, p = .005) and imagine-other (β = -.17, p = .046) perspective-taking predicting reaction times to non-words. There were also statistically significant perspective-taking X self-compassion interactions (see Figure 5), such that the effect of imagine-self (β = -.33, p = .003) and imagine-other (β = -.29, p = .010) perspective-taking on reaction times to non-words depended on individual levels of self-compassion, adj R^2 = .04, F(6, 186) = 2.22, p = .043. Simple slope tests revealed that of individuals high on self-compassion, those in the imagine-self (t(186) = -2.98, SE = 71.78, p = .003) or imagine-other (t(186) = -3.27, SE = 69.76, p = .001) perspective-taking conditions were faster to respond to non-words than those who received no instructions. When looking at those that are low in self-compassion, neither those in imagine-self (t(186) = 1.23, SE = 64.01, p = .222) or imagine-other (t(186) = .46, SE = 69.75, p = .646) perspective-taking conditions were different in response rate to non-words than those who received no instructions.

Opposition to Equality

There was a statistically significant effect of the covariate, ally identity (β = -.44, p < .001), such that as the degree to which someone saw themselves as an ally increased, the less they opposed equality. There were no statistically significant main effects of self-compassion (β = -.10, p = .431), imagine-self (β = -.07, p = .370), or imagine-other (β = .02, p = .829) perspective-taking. Additionally, there were no hypothesized perspective-taking X self-compassion interactions, such that the effect of imagine-self (β = .12, p = .257) and imagine-other (β = .01, p = .912) perspective-taking on opposition to equality did not depend on individual levels of self-compassion, adj R^2 = .18, F(6, 184) = 8.14, p < .001.

Moderated Mediation

Using Lavaan and processR, paths were created, such that perspective-taking (dummy coded with the control as the comparison group; no instructions control = 0, imagine-self = 1,

imagine-other = 2) predicted meta-stereotype activation (measured via reaction time to meta-stereotype words), which predicted opposition to equality. A self-compassion X meta-stereotype interaction was included in the model, such that self-compassion (centered) moderated the relationship between meta-stereotype activation (centered) and opposition to equality (b path). Ally identity was entered into the model as a covariate and Lavaan automatically allowed all exogenous variables (perspective-taking condition, ally identity, and self-compassion in the model) to covary.

Chi-square test, the Root Mean Square Error of Approximation (RMSEA), the Standardized Root Mean Residual (SRMR), and the Comparative Fit Index (CFI) were used to analyze the fit of the proposed model. The Chi-square test tests the null hypothesis that the model perfectly fits the data. Chi-square is also known as a "badness of fit" index, such that higher p-values and non-significance signify better fit. The results of Chi-square are best interpreted in the context of the other fit indices. The RMSEA is another "badness of fit" index that is adjusted for parsimony where lower values indicate better fit. Values of .05, .08, .10 indicate good, acceptable, and poor fit, respectively. The SRMR is a measure of the average difference between observed and reproduced correlations (i.e., absolute fit), with values less than .08 indicating good fit. CFI is a parsimony adjusted measure of incremental fit, where higher values indicate how much the model improves upon the independence model. Values of .90 and .95 indicate acceptable and good fit, respectively.

The proposed model (Model 1) was an acceptable fit for the data, $X^2(5) = 6.40$, $p = .269$, CFI = .97, RMSEA = .04, SRMR = .04. The data showed a statistically significant a-path from perspective-taking condition to meta-stereotype activation, $\beta = -.18$, $p = .042$. However, there was no significant interaction between meta-stereotype activation and self-compassion for the b-

path, β = -.06, p = .318. The index of moderated mediation was not statistically significant, β = .02, 95% CI [-0.03, 0.07]. Thus, we found no evidence for a moderated mediation. It could be that because the effects of perspective-taking on meta-stereotype activation (R^2 = .02) and ally identity on opposition to equality (R^2= .20) accounted for much of the overall variance, non-significant paths elsewhere did not produce poor model fit.

Because I was open to testing self-compassion in different locations within the model, the analysis was also run including self-compassion moderating the relationship between perspective-taking and meta-stereotype activation (a path). This model (Model 2) displayed poor fit, $X^2(6) = 420.75$, $p < .001$, CFI = .09, RMSEA = .60, SRMR = .17, and was therefore not interpreted. When asking for Lavaan for modification indices (e.g., adding covariances, additional paths) for Model 1, no fit index provided aligned with theoretical justifications and was therefore not administered. Only Model 1 (with standardized regression coefficients and error terms) is shown in Figure 6.

Post-hoc Analyses

Replacing Self-compassion with Ally Identity as a Moderator

Although the subsequent analyses were not included in the proposal or the Open Science preregistration of this study (osf.io/6vq5n), I wanted to explore if ally identity had a moderating role in the relationship between perspective-taking and meta-stereotype activation, as well as between perspective-taking and opposition to equality. I also wanted to account for participants' political liberalism, therefore, political orientation was included in both regressions as a covariate.

Meta-stereotype Words

There were statistically significant main effects of ally identity (β = -.29, p = .036), and imagine-self (β = -1.55, p = .005) perspective-taking predicting reaction times to meta-stereotype words. There was no statistically significant main effect of imagine-other perspective-taking (β = -.79, p = .159). There was also a statistically significant perspective-taking X ally identity interaction, such that the effect of imagine-self (β = 1.45, p = .009) perspective-taking on meta-stereotype activation depended on individual levels of ally identity (see Figure 7), adj R^2 = .03, F(6, 185) = 2.10, p = .055. There was not a statistically significant perspective-taking X ally identity interaction for imagine-other perspective-taking (β = .64, p = .266). Simple slope tests revealed that of individuals low on ally identity, those in the imagine-self (t(185) = -3.02, SE = 28.29, p = .003) perspective-taking conditions were faster to respond to meta-stereotype words than those who received no instructions. Such a result is consistent with the idea that for participants low in ally identity, meta-stereotype words were more accessible for perspective-takers relative to those who received no instructions. When looking at those that are high in ally identity, neither those in imagine-self (t(185) = .78, SE = 29.40, p = .438) or imagine-other (t(185) = -.61, SE = 30.46, p = .542) perspective-taking conditions were different in response rate to meta-stereotype words than those who received no instructions.[8]

Opposition to Equality

There was a statistically significant main effect of the covariate (political orientation; β = -.55, p < .001), such that as the degree to which someone was more liberal, the less they opposed equality. There were no statistically significant main effects of ally identity (β = -.17, p = .140),

[8] Results for ally identity X perspective-taking predicting reaction times revealed a similar pattern of results to that of the self-compassion X perspective-taking interactions discussed prior, such that the same interactions emerged for negative and non-words. However, results for positive words diverged. No statistically significant interaction effects emerged for ally identity and perspective-taking predicting reaction times to positive words, adj R^2 = .01, F(5, 186) = 1.54, p = .180.

imagine-self (β = .01, p = .975), or imagine-other (β = .49, p = .277) perspective-taking. Additionally, there was no perspective-taking X ally identity interaction, such that the effect of imagine-self (β = -.10, p = .815) and imagine-other (β = -.50, p = .276) perspective-taking on opposition to equality did not depend on individual levels of ally identity, adj R^2 = .45, $F(6, 184) = 26.56$, $p < .001$.

Discussion

Although perspective-taking has been used to improve attitudes towards social outgroups (Todd & Galinsky, 2014), the current study shows that imagining the perspective of an outgroup member may not be enough to change people's pre-existing attitudes about marginalized groups when perceivers expect to interact with the target. Indeed, only the degree to which someone was politically liberal (i.e., political liberalism) was predictive of participants' opposition to equality, with neither self-compassion nor the different forms of perspective-taking influencing such beliefs. Even the degree to which someone saw themselves as an ally was not predictive of opposition to equality after political liberalism was accounted for. Research into prejudice and perspective-taking has highlighted the role of political orientation in expressions of prejudice and stereotyping (see Sparkmen & Eidelman, 2016). It could be that being politically liberal draws one to imagine the perspective of marginalized group members, which reduces one's opposition to equality. In other words, perspective-taking instructions would have made little difference if intuitive or spontaneous perspective-taking (without the prompting from perspective-taking instructions) was already occurring for politically liberal people.

There is also research to support the idea that the control condition in perspective-taking experiments can influence the effect of perspective-taking interventions. A growing body of research (e.g., McAuliffe et al., 2020; Wondra & Morelli, 2018) has found that perspective-

taking may not increase empathy beyond a "no instructions" control but does so relative to an "objective perspective" control. Indeed, telling someone to be "as objective as possible" may down-regulate or suppress empathic concern from someone's general empathic tendencies (i.e., their default) to make it appear as though perspective-taking increases empathic concern and influences attitudes when it does not. Importantly, this down-regulation occurs regardless of how much or little suffering the target is believed to experience (see Hodges & Wixwat, 2022). Provided the results of the current study, it could be that because the control condition had no instructions (vs. an objective perspective), those in the control condition were already imagining the perspective of the target and experiencing empathic concern for them. Further, because research has demonstrated that empathy mediates the relationship between perspective-taking and intergroup attitudes (e.g., Vescio et al., 2003), it is possible that if empathic concern were felt by all participants (regardless of condition), this empathic concern could partially explain the null effects of perspective-taking on opposition to equality.

Findings for meta-stereotype activation were surprising. The expectation was that self-compassion would not moderate the effect of perspective-taking on meta-stereotype activation because self-compassion is often a response to self-rumination and criticism rather than a precluding force (Neff, 2003a). Contrary to predictions, however, self-compassion moderated the rate at which individuals responded to meta-stereotype words while perspective-taking. Specifically, perspective-taking (vs. no instructions control) predicted faster reaction times to meta-stereotype words (e.g., *prejudiced, fake*) in a lexical decision-making task when participants were high in self-compassion. This finding would be consistent with the notion that meta-stereotypes, meta-perceptual concerns for how outgroup members view ingroup members, were more accessible for those high in self-compassion while perspective-taking than those who

had no instructions. However, this pattern of results carried over not only to negative (and stereotype irrelevant) words, but also to positive words and non-words in the lexical decision-making task. Such a pattern suggests that those high in self-compassion who imagined the perspective of the target were faster to respond to *any* stimulus than those who received no instructions. Closer examination of self-compassion and perspective-taking may provide insight to these findings. Specifically, self-compassion is positively related to positive affect, optimism (Barnard & Curry, 2011), and prosocial behavior (e.g., Yang et al., 2019). According to some investigations of perspective-taking, there is evidence to suggest that perspective-taking can influence stress physiology and arousal relative to an objective perspective (e.g., Buffone et al., 2017; Lamm et al., 2008). Taken together, it is possible that individuals who were high in self-compassion may have responded faster to stimuli when perspective-taking than those who received no instructions because they experienced an increase in arousal.

Another response bias emerged when meta-stereotype word reaction times were predicted from ally identity and perspective-taking in a post-hoc analysis. Similar to participants high in self-compassion, participants low in ally identity who imagined the perspective of the outgroup member responded faster to meta-stereotype words, negative words, and non-words relative to those who received no instructions. One might assume because these results are analogous to when self-compassion was entered in the model as moderator, self-compassion and ally identity may be negatively related, and that this relationship could partially explain these different findings. Interestingly, however, self-compassion and ally identity were not statistically and significantly related (r = -.07, p = .367), making the patterns of results similar, but perhaps indicative of different underlying mechanisms.

The potential increase in arousal and excitability of high self-compassion perspective-takers may have been suggestive of a general excitement for the anticipated intergroup interaction. Participants low in allyship identity may have also experienced an increase in arousal, but for a different reason. Plant and Butz (2006) argued that White people may avoid interracial interactions because of a concern for exhibiting bias in the presence of Black people, increasing White people's intergroup anxiety. As low allyship identity was associated with higher opposition to equality, it is possible that when individuals low in allyship identity anticipated interacting with an outgroup target, perspective-taking induced intergroup anxiety because perceivers were concerned their less positive intergroup attitudes would come out during their interaction with the outgroup target. Paired with the increase in arousal from perspective-taking (e.g., Buffone et al., 2017; Lamm et al., 2008), this anxiety could have influenced the accessibility of meta-stereotype, negative, and non-words, making low allyship identity perspective-takers respond faster to these words than those who received no instructions. Interestingly, however, there were no effects of allyship identity or perspective-taking on reaction times to positive words. Whereas high self-compassion participants responded faster to all stimuli in the lexical decision-making task when perspective-taking, low allyship identity participants only responded faster to meta-stereotype, negative, and non-words, suggesting that participants low in allyship identity when perspective-taking were experiencing more negative responses to perspective-taking than participants high in self-compassion.

Limitations and Future Directions

Contrary to predictions, imagine-other perspective-taking did not predict higher opposition to equality than imagine-self perspective-taking or the no instructions control condition. And although imagine-other perspective-taking was found to be a statistically

significant predictor of meta-stereotype activation, this effect was qualified by the perspective-taking X self-compassion interaction that emerged. It is possible that the different forms of perspective-taking do not differ from one another when it comes to attitudes towards marginalized groups or meta-stereotype activation, which is inconsistent with some research (Vorauer & Sasaki, 2014), but consistent with most research looking at the differences between the two forms of perspective-taking (Todd & Galinsky, 2014). In the current study, the type of perspective-taking may not have mattered: If there was effort to imagine the target's perspective, perceivers experienced similar cognitive and emotional states. Despite providing perceivers with thorough perspective-taking instructions, writing prompts, and personal information about the target (included in the personal information sheet), perceivers may have also mixed up the two forms of perspective-taking, as the differences between them are important, but subtle to lay-perceivers. Therefore, the strength of the manipulation may not have been enough to influence what individuals' preconceived notions of perspective-taking were, which could have reduced the differences between effects of imagine-self and imagine-other perspective-taking on meta-stereotype activation and opposition to equality.

One obvious limitation of this study is the sample size. The final sample size ($N = 193$ after exclusion criteria) fell short of the desired sample size ($N = 300$) that was calculated based on two power analyses. Despite efforts to recruit as many individuals as possible, in-person data collection was constrained by several factors. Most consequential of these factors was the COVID-19 pandemic. Due to the university switching modality (online vs. in-person) to accommodate changes in positive COVID-19 case rates, in-person data collection was halted for sometimes weeks at a time. Such changes influenced the ability for myself (and my team of research assistants) to conduct the current study. In relation to the university wide constraints,

individual participants may have been less incentivized to participate in in-person research due to interests in avoiding contact with others or maintaining a remote modality (especially if the rest of their engagements/classes were online).

Another limitation of this study is the potential shortcomings of my measure of intergroup attitudes, opposition to equality. The measure may be less of an indicator of attitudes towards marginalized groups and more a reflection of general liberal values. Findings from using political liberalism as a covariate in the model predicting opposition to equality from ally identity and perspective-taking are consistent with this belief, such that only political liberalism was predictive of opposition to equality (r = -.64). It can be a challenge to capture indirect attitudes towards marginalized groups (especially in an environment where social justice attitudes are common), and this measure may have strayed too far from beliefs about marginalized groups and too close to more radical liberal policies to adapt to this challenge. Future research might consider a more direct and proximal measure of feelings toward the anticipated target. Although Vorauer and Sasaki (2014) did not find any effects of perspective-taking on their measure of group-specific attitudes (i.e., evaluation thermometer of Indigenous Canadians), it could be that individual differences, such as self-compassion or ally identity, may moderate perspective-taking's effect.

One future direction of this project is an extension of the current study. After watching the instructional videos, participants in the perspective-taking conditions responded to writing prompts asking participants to restate the instructions they received as well as indicate any goals or concerns they had when thinking about interacting with the outgroup target. Evaluating the content of those responses, particularly the reiteration of the instructions, could serve as a manipulation check. In other words, participant responses may be a more direct reflection of

whether participants were really “imagine-self” or “imagine-other” perspective-taking. Such responses may be a useful way to evaluate whether differences in meta-stereotype activation or opposition to equality varied by the type of perspective-taking.

In continued exploration of the use of perspective-taking and intergroup dynamics, future research could investigate how perspective-taking may contribute to (or detract from) the quality of intergroup interactions. Particularly, future research could unpack how cognitive and emotional responses (e.g., excitement, anxiety) from combined effects of perspective-taking and individual difference factors (e.g., self-compassion, ally identity) influence intergroup interactions. While findings indicated that reaction times to stimuli in the lexical decision-making task did not influence intergroup attitudes beyond an individual’s level of ally identity, understanding what implications these potential differences in arousal could have for interactions between perceivers and targets could be enlightening. For example, it is possible that increased positive affect and arousal from high self-compassion perspective-takers leads to more positive live interactions for not only ingroup perceivers, but outgroup targets as well, as ingroup perceivers may be more engaged when meeting face-to-face. Alternatively, if a perceiver experiences increased intergroup anxiety from perspective-taking when low in ally identity, it is possible that the intergroup interaction would prove to be negative for the ingroup and outgroup member, with ingroup perceivers likely wanting to avoid the interaction entirely (see Stephan, 2014).

Conclusion

Although the current study showed that perspective-taking did not influence attitudes towards marginalized groups, there is evidence to suggest that individual characteristics of perceivers (i.e., self-compassion, ally identity), when paired with perspective-taking, may

influence psychological arousal in the context of intergroup interactions. It is important to examine which interpersonal strategies improve intergroup interactions as well as which strategies reduce negative intergroup attitudes, especially in a society where racial diversity is increasing. Instructing people to imagine the perspective of another person may not be as effective as traditionally studied in this endeavor (see McAuliffe et al., 2020), and may instead require more thoughtful analysis in order to reap perspective-taking's benefits and avoid its pitfalls. One practical implication of these findings is that instructing ingroup members to imagine the perspective of an outgroup member may mean different things for different ingroup members, such that anticipating intergroup contact with an outgroup target may increase excitement for some but unearth anxiety for others.

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Appendix A: Tables and Figures

Table 1. *Descriptive statistics and correlations for all self-report measures*

	Descriptives		Correlations			
Measure	*M*	*SD*	Political Orientation	Ally Identity	Self-compassion	Reaction time to Meta-stereotype Words
Political Orientation	5.5	0.99				
Ally Identity	5.21	0.82	.39***			
Self-compassion	2.91	0.6	-0.09	-0.07		
Reaction Time to Meta-stereotype Words	756.28	116.7	0.003	-0.04	-0.05	
Opposition to Equality	2.44	1.01	-.64***	-.44***	0.02	-0.01

Note. Reaction time was measured in milliseconds. $p < .001$***, $p < .01$**, $p < .05$*

Figure 1.

Theorized process model for moderated mediation

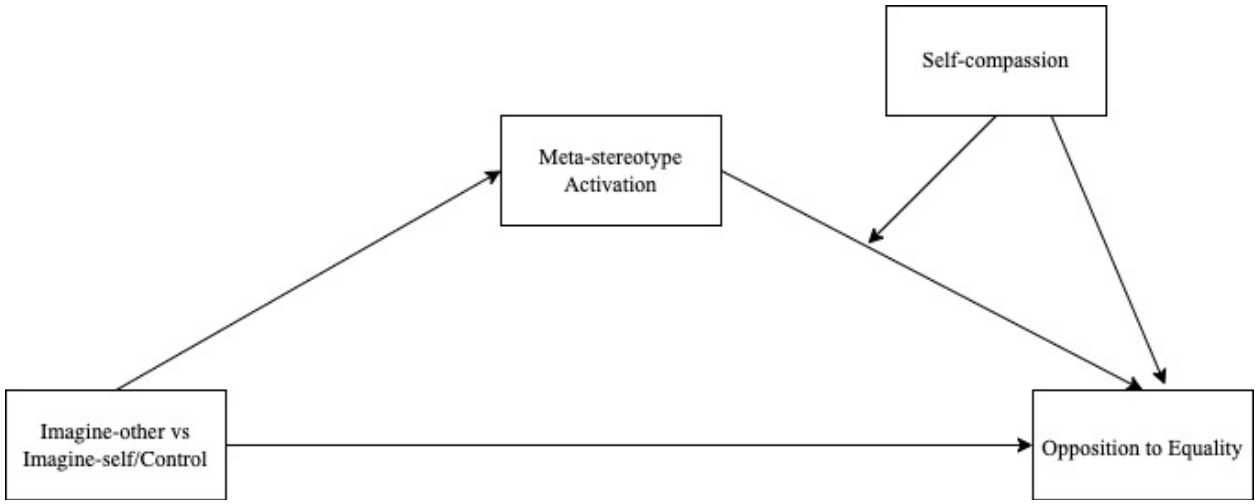
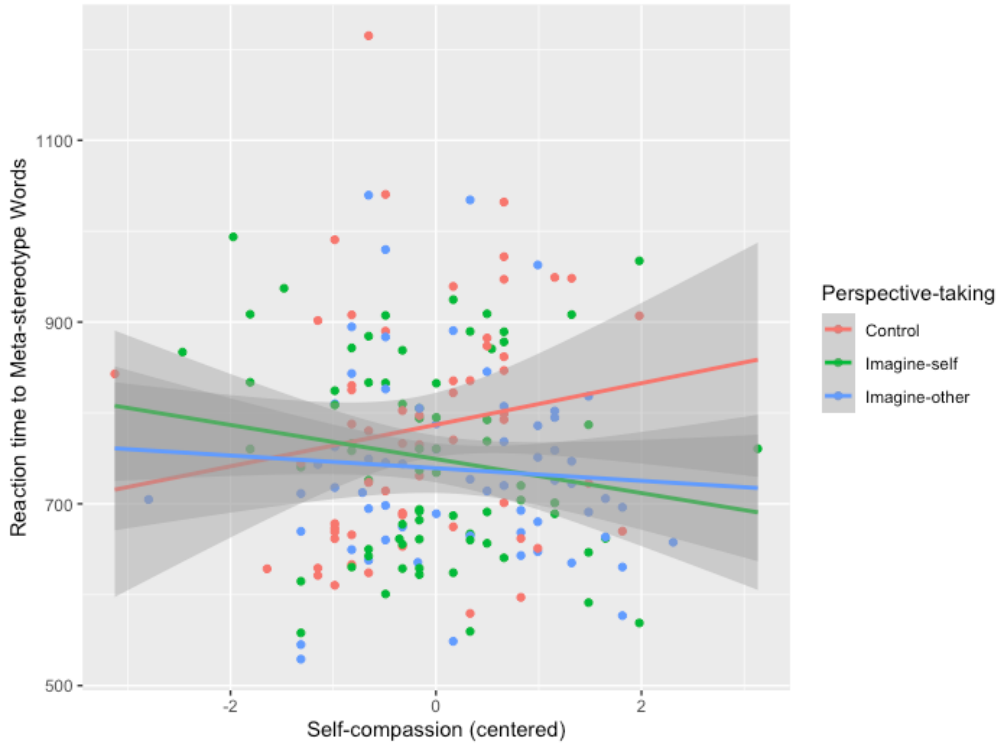


Figure 2.

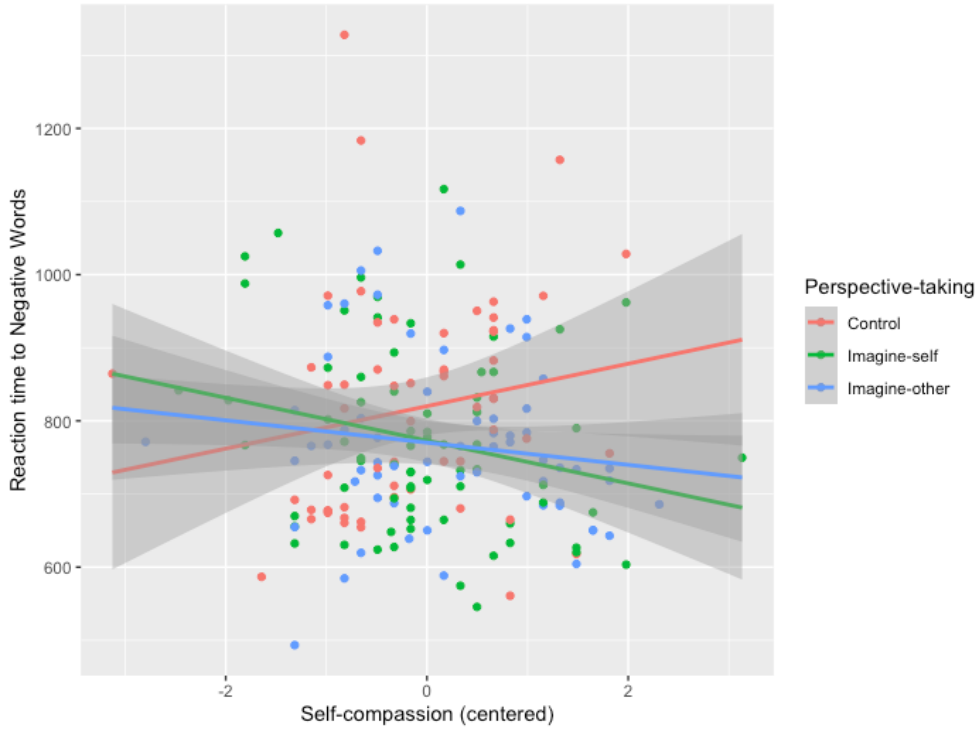
Interaction of perspective-taking and self-compassion predicting reaction time to meta-stereotype words



Note. Shading reflects 95% CI and reaction time was measured in milliseconds.

Figure 3.

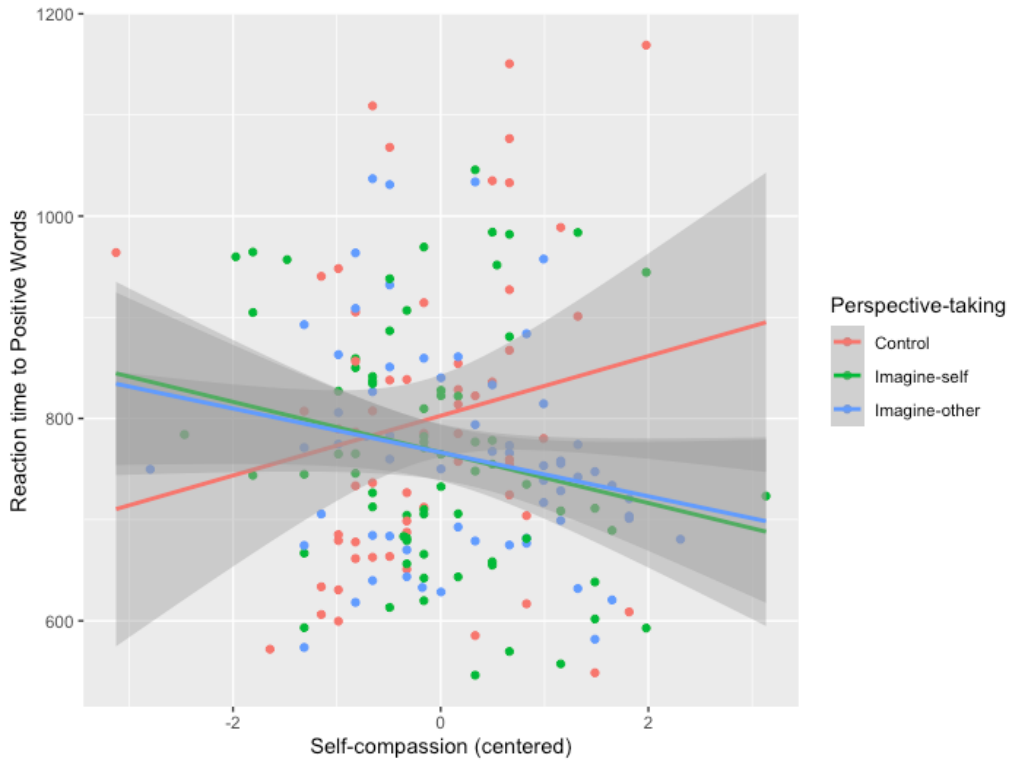
Interaction of perspective-taking and self-compassion predicting reaction time to negative words



Note. Shading reflects 95% CI and reaction time was measured in milliseconds.

Figure 4.

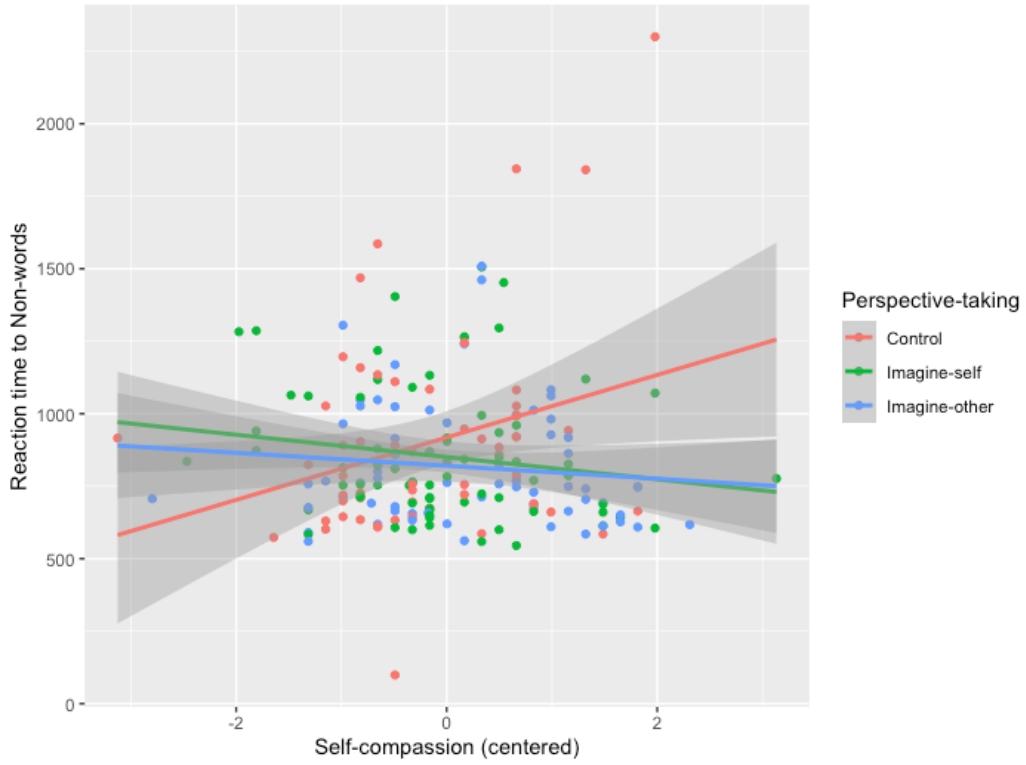
Interaction of perspective-taking and self-compassion predicting reaction time to positive words



Note. Shading reflects 95% CI and reaction time was measured in milliseconds.

Figure 5.

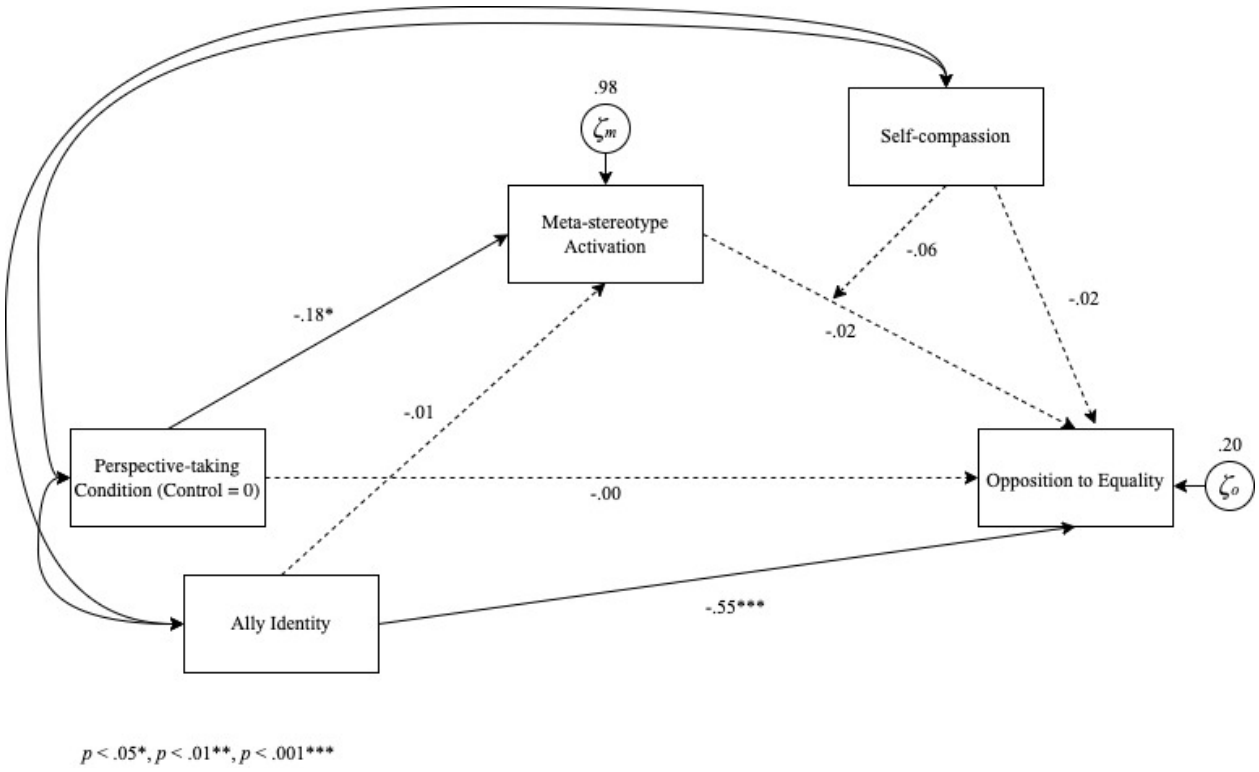
Interaction of perspective-taking and self-compassion predicting reaction time to non-words



Note. Shading reflects 95% CI and reaction time was measured in milliseconds.

Figure 6.

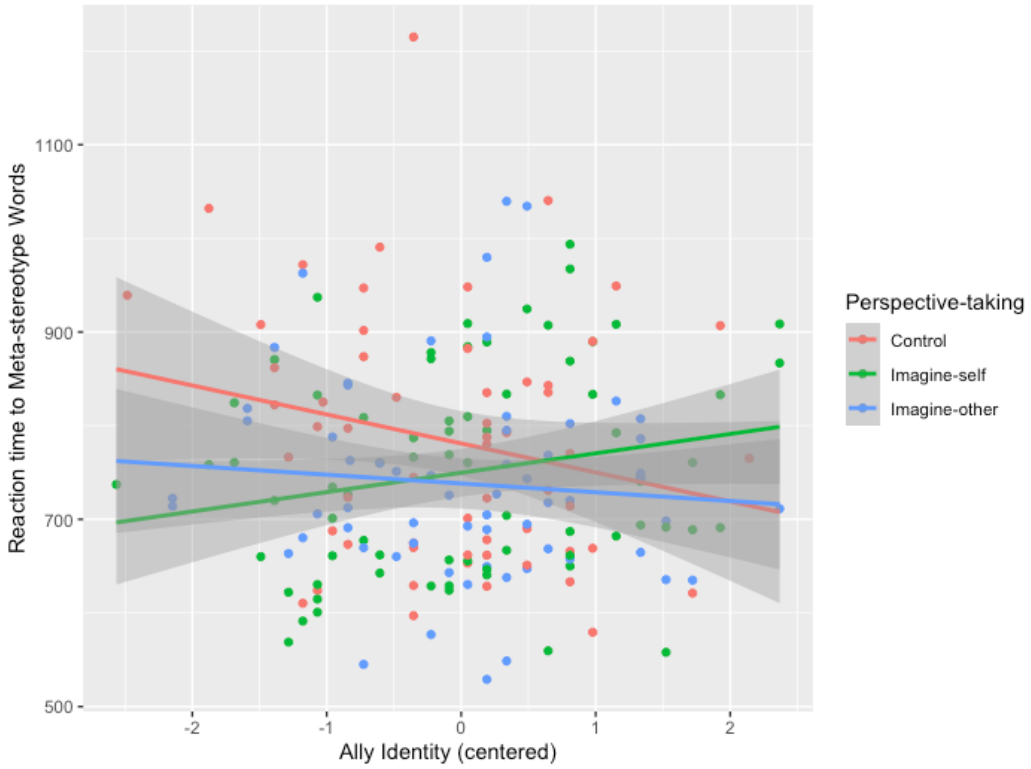
Path diagram of Model 1



Note. Numbers indicate standardized path coefficients and dotted lines indicate non-statistically significant regression paths. Meta-stereotype activation reflects reaction time to meta-stereotype words.

Figure 7.

Interaction of perspective-taking and ally identity predicting reaction time to meta-stereotype words



Note. Shading reflects 95% CI and reaction time was measured in milliseconds.

Appendix B: Materials and Measures

Demographics

Gender

How would you describe your gender identity?

Man

Woman

Non-binary

None of these options align with my identity. I identify as:

Do you identify as Transgender?

Yes/no

Age

How old are you?

Race/ethnicity

Which of the following best describes your race/ethnicity (check all that apply)

White/European American

Black/African American

Native American/Alaskan Native

Native Hawaiian/Other pacific islander

Latino/a/x/Hispanic

East Asian/Asian American

South Asian/Asian American

None of these options align with my identity. I identify as:

Political orientation

How would you describe your political orientation? *participants will be shown a slider scale and can move the scale to indicate anywhere between "Extremely Conservative" and "Extremely Liberal"*

Personal Information Sheet Blank

Personal Information Sheet	
First name:	**Age:**

Gender:	**Race:**
What personal qualities are important to how you see yourself?	
What's your favorite season? Why?	
What's your favorite holiday? Why?	

Personal Information Sheet (From "Interaction Partner")

Personal Information Sheet	
First name: Jordan	**Age:** 18
Gender: *Matched to participant*	**Race/ethnicity:** Black
What personal qualities are important to how you see yourself?	
I think openness is really important to me, whether that be openness to new ideas, places, or foods. I see myself as an honest person, where I like to be honest with people and want them to be honest with me. I also see myself as a person that cares a lot about nature, so I would say I am an environmentalist.	
What's your favorite season? Why?	

My favorite season is spring. Especially in western Washington, everything is in bloom and thriving. The winters are hard because they are so gloomy and rainy, so the spring feels like a relief.
What's your favorite holiday? Why?
My favorite holiday is Halloween. I guess it's my favorite because it was my favorite growing up and I never stopped liking it. I also like classic scary movies and it's always fun going to Halloween parties.

LGBT Ally Identity Measure (AIM; Jones et al., 2014) – shortened and adapted for general attitude toward marginalized groups

Please read each statement carefully before answering. For each item, indicate the degree to which you agree with the statements about your behaviors involving marginalized groups (e.g., people of color, women, people with disabilities), using the following 1-5 scale.

(1 = *Strongly disagree* to 7 = *Strongly agree*).

1. I know about resources (e.g., books, websites, support groups, etc.) for marginalized groups in my area.
2. I have developed the skills necessary to provide support if a member of a marginalized group needs my help.
3. I know of organizations that advocate for marginalized groups.
4. I keep myself informed through reading books and other media about various issues faced by marginalized groups, in order to increase my awareness of their experiences.
5. I have taken a public stand on important issues facing marginalized groups.
6. I try to increase my knowledge about marginalized groups.
7. I have engaged in efforts to promote more widespread acceptance of members from marginalized groups.
8. I think marginalized groups are oppressed by society in the United States.
9. I think marginalized group members face barriers in the community that are not faced by non-marginalized group members.

Self-compassion Scale Short form (SCS-SF) – adapted for interactions

Please read each statement carefully before answering. For each item, indicate how often you behave in the stated manner when you are interacting with others, using the following 1-5 scale. Please answer according to what really reflects your experience rather than what you think your experience should be.

(1 = Almost never, 5 = Almost always)

In social settings…

1. When I fail at something important to me, I become consumed by feelings of inadequacy.
2. I try to be understanding and patient towards those aspects of my personality I don't like.
3. When something painful happens, I try to take a balanced view of the situation.
4. When I'm feeling down, I tend to feel like most other people are probably happier than I am.
5. I try to see my failings as part of the human condition.
6. When I'm going through a very hard time, I give myself the caring and tenderness I need.
7. When something upsets me, I try to keep my emotions in balance.
8. When I fail at something that's important to me, I tend to feel alone in my failure
9. When I'm feeling down I tend to obsess and fixate on everything that's wrong.
10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.
11. I'm disapproving and judgmental about my own flaws and inadequacies.
12. I'm intolerant and impatient towards those aspects of my personality I don't like.

Perspective-taking Manipulation Instructions

Imagine-self Video Script

"*In psychology, there is something called perspective-taking: the act of perceiving a situation or understanding a concept from an alternative point of view. When we are in social settings, we may already engage in some form of perspective-taking. For example, when seeing*

something happen to a stranger or friend, we may wonder what they are thinking or feeling in response.

During the rest of your exchange with your interaction partner, you should put yourself in your partner's place. As clearly and vividly as possible, imagine yourself and your own way of looking at things but within your partner's position. Sometimes this process is referred to as "walking in someone else's shoes." To better illustrate this, let's walk through a visual.

Here we have you and your interaction partner. We also have some shoes on your partner to represent their respective position. Essentially, you are imagining "walking in your partner's shoes." This is to say, you should be imagining what you would be thinking and feeling if you were your partner.

Say your interaction partner told you they're left-handed. If you're right-handed, you would be thinking about what your experience would be like if you were left-handed. For example, you might think about what it would be like to arrive in class and find out there are no left-handed desks available. What kinds of thoughts and feelings would come up if you were in that situation?

Now that you have a good understanding of perspective-taking, you should be thinking about it as you prepare to meet with your interaction partner."

Imagine-self Writing Prompts

In your own words, describe the instructions from the video:

So the next part of the study involves a face-to-face discussion of a range of social and political topics with your partner. Before you meet them in person, picture yourself in your partner's

place. In the space below, write about your goals for when you meet your partner; what you would like to talk about, and what, if any, concerns you have about meeting with your partner:

Imagine-other Video Script

"In psychology, there is something called perspective-taking: the act of perceiving a situation or understanding a concept from an alternative point of view. When we are in social settings, we may already engage in some form of perspective-taking. For example, when seeing something happen to a stranger or friend, we may wonder what they are thinking or feeling in response.

During the rest of your exchange with your interaction partner, you should take your partner's unique perspective. As clearly and vividly as possible, imagine how they would think and feel considering everything you know about them. To better illustrate this, let's walk through a visual.

Here we have you and your interaction partner. We want you to imagine your partner's unique perspective. This is to say, to the best of your ability, ignore your own way of thinking to imagine your partner's own way of thinking and perspective. You should be imagining what they might be thinking and feeling considering everything you know about them.

Say your interaction partner told you they're left-handed. Assuming you're right-handed, you would use that information to inform yourself about their unique perspective and what life would be like for them because they are left-handed. For example, you might think about what it would be like for them to arrive in class and find out there are no left-handed desks available. Based on your understanding of their experiences, how would you think they would think and feel in response?

Now that you have a good understanding of perspective-taking, you should be thinking about it as you prepare to meet with your interaction partner."

Imagine-other Writing Prompts

In your own words, describe the instructions from the video:

So the next part of the study involves a face-to-face discussion of a range of social and political topics with your partner. Before you meet them in person, picture your partner's unique perspective considering what you know about them. In the space below, write about your goals for when you meet your partner; what you would like to talk about, and what, if any, concerns you have about meeting with your partner:

No instructions control

No additional instructions appeared for participants in their survey.

Lexical Decision-Making Task (LDT; Vorauer et al., 2000) – adapted

In this task, you will be presented with one word at a time. If this word is a real English word, you press the button "YES." If this word is a non-sense word (for example, " FLUMMOL), you press the button "NO." Respond as quickly as you can. Press the space bar to start the test.

60 trials in total; 30 non-words, 30 words

10 meta-stereotype words:

1. Arrogant
2. Superior
3. Unfair
4. Defensive
5. Selfish
6. Cruel
7. Entitled
8. Prejudiced
9. Fake
10. Untrustworthy

10 stereotype-irrelevant words (negative):

1. Ignorant
2. Confused
3. Unruly
4. Dishonest
5. Envious
6. Dirty
7. Frighten
8. Possessive
9. Grim
10. Contradictory

10 positive fillers:

1. Delicious
2. Uplifting
3. Pleasant
4. Thoughtful
5. Fragrant
6. Beaming
7. Genuine
8. Delightful
9. Tranquil
10. Kind

Measure of Opposition to Equality

The following statements refer to current social and political opinions. Please indicate to what degree you support these statements.

(1 = *Strongly disagree*, 7 = *Strongly agree*)

1. Reparations (i.e., compensation for abuse/injury) should be made for those whose ancestors were enslaved.
2. Movements like "Defund the Police" are too radical to accomplish much.
3. Sacred places, including national parks and monuments, should be restored to Indigenous ownership.
4. Undocumented immigrants should have easy access to citizenship once in the United States.
5. Affirmative Action for students based on racial and ethnic identity should be enforced in education.
6. Racial quotas, numerical requirements for hiring racial minorities, should be mandatory in the workplace.
7. Hate against Asian Americans during the COVID-19 pandemic has increased, but not as much as people say it has.
8. White students should be required to attend trainings covering cultural sensitivity/competency as part of their undergraduate degree.

Attention Check

Which of the following is true about your partner? True/false

1. Their favorite holiday is Christmas
2. They are Black/African American
3. Their favorite season is Fall
4. They value honesty

Follow-up Debrief (after all data has been collected)

Hello, [participant name]

You may remember participating in a study, "Perceptions of First-Meeting Interactions," where you received credit as compensation for your participation. You are being contacted because data collection for this study is now complete and you are now entitled to more information about this study.

You were brought to this study under the pretense that the researchers were interested in first meeting interactions, particularly interracial interactions. However, the true goal of this study was to understand how people's personality and perceptions of various social groups influence group attitudes while imagining or not imagining different perspectives. As we were interested in intergroup dynamics, it was important to withhold information that would have encouraged you to respond desirably.

Additionally, you did **not** have a partner who you would be interacting with at a later time in that study – the experimenter led you to believe you were going to be meeting another student in person, so that exchanging information felt real to you. Your interaction partner's personal information sheet was made up, and your personal information sheet did not go to them, but to a bin that was recycled – so that all traces of your identifiable information are maintained only by the researchers.

You were not notified of this deception at the end of the study because of concern this information could be revealed to future participants. This is to say, the researchers were afraid that if you were debriefed at the end of the study, you might have told other potential participants about your experience, and that this would have influenced the credibility of their data.

Thank you for your participation in this study. Please reach out to Haley Bock (bockh3@wwu.edu) if you have any questions regarding the study or this email.

Haley Bock *(she, her, hers)*

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Western Washington University
Bellingham, WA 98225

R Script for Moderated Mediation (Requires Lavaan Package)

Model 1

```
pathmodel <-'

meta.cn ~ a*cond.fn + f*AIM
OTE ~ c*cond.fn+b1*meta.cn+b2*SC.cn+b3*meta.cn:SC.cn + g*AIM
SC.cn ~ SC.cn.mean*1
SC.cn ~~ SC.cn.var*SC.cn
indirect :=(a)*(b1+b3*SC.cn.mean)
direct :=c
total := direct + indirect
prop.mediated := indirect / total
indirect.below :=(a)*(b1+b3*(SC.cn.mean-sqrt(SC.cn.var)))
indirect.above :=(a)*(b1+b3*(SC.cn.mean+sqrt(SC.cn.var)))
direct.below:=c
direct.above:=c
total.below := direct.below + indirect.below
total.above := direct.above + indirect.above
prop.mediated.below := indirect.below / total.below
prop.mediated.above := indirect.above / total.above'

fit <- sem(pathmodel, data=PFMI, meanstructure=TRUE)
summary(fit, fit.measures=TRUE, std.nox=TRUE, standardized=TRUE, rsquare=TRUE)

process (data = PFMI,
      y = "OTE", x = "cond.fn", m = "metastereotype",
      w = "SC", model = 14,
```

```
cov = "AIM", center = 2,
moments = 1, modelbt = 1,
boot = 10000, seed = 654321)
```