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Effects of political ingroup/outgroup rejection on behavior and physiology

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EFFECTS OF POLITICAL INGROUP/OUTGROUP REJECTION ON BEHAVIOR AND PHYSIOLOGY

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ABSTRACT

Previous research shows that both exclusion and intergroup threat can increase prejudice and biological markers such as cortisol. Exclusion from an outgroup should increase prejudice and cortisol more than similar interactions in an ingroup since it incorporates both exclusion and intergroup threat. Change in cortisol and prejudice was examined in fifty participants who were excluded by either a politically-based ingroup or outgroup. Two t-tests were conducted to examine the change in a) cortisol and b) prejudice as a function of experimental ingroup/outgroup conditions. Additional analyses were also conducted to further explore cortisol changes and similarity. Cortisol increased more in participants excluded by an outgroup compared to those excluded by an ingroup. Prejudice change was not different between conditions. Additionally, cortisol increase is negatively correlated with increasing similarity.

Keywords: Exclusion, Intergroup Threat, Ingroup, Outgroup, Prejudice, Cortisol

CHAPTER 1

INTRODUCTION

Overview

People find it hurtful to be left out. Psychologists refer to this as "rejection" or being "excluded." Besides subjective sense of being excluded, research has shown it can lead to physical changes. Often, people can feel differently about social interactions depending on how they view the people they interact with. For example, people view interactions with others similar to them as positive and others dissimilar to them negatively (Brewer, 1979). With that in mind, whether exclusion also has different effects when it's from others that someone is similar vs dissimilar to is an important question.

Exclusion as a Negative Interaction

Exclusion, or "the state of being shut out by others" (Dictionary.com, 2018), can be a very powerful form of negative interaction. Exclusion can elicit various negative psychological effects such as anxiousness, sadness, and feeling isolated (Baumeister & Leary, 1995). Exclusion can have physiological effects as well. For example, rejection (a form of social exclusion) has been shown to increase stress hormones (Blackhart, Eckel, & Tice, 2007). Thus exclusion should cause a measurable change in those experiencing it. In other words, someone excluded by their peers would feel more stressed by the rejection.

Ingroups and Outgroups

An ingroup is a "group that you identify with" (Kassin, 2006, p. 614). A person views their "ingroup" as one where the other members have similarities to themselves (Brewer, 1979). That person will also evaluate their ingroup better (Holtz, 2004) and tend to like other members

of their ingroup (Brewer, 1979). Even without another group for comparison, people still view their ingroup in a positive light (Gaertner, Iuzzini, Witt, & Oriña, 2006). The strength of positive regard towards ingroup members increases as the group becomes more cohesive (Holtz, 2004). As an example of an ingroup, someone who is a strong Democrat would view other Democrats at a political debate as their "ingroup." By convention, an outgroup, "groups other than your own" (Kassin, 2006, p. 614), is a group in which the opposite phenomena occurs. Using the democrat example above, the Republicans at that same political debate would be an "outgroup." Feeling dissimilar to others (thus how one feels towards an outgroup) is related to feelings of anger, less control over surroundings, and social rejection (DeSoto, Hitlan, Deol, & McAdams, 2010). Differentiation between ingroup and outgroup depends on how much an individual favors their group's position and how important the differences between two different groups are (Brewer, 1979). Thus, continuing the example above, a strong Democrat would see political identification as more important than a moderate would.

Intergroup Threat

Intergroup threat is when a group's views and behaviors jeopardize another group's security or success (Riek, Mania, & Gaertner, 2006). There are a variety of theories as to why intergroup threat occurs. The first is the Realistic Group Conflict Theory (RGCT) which states that intergroup threat arises over scarcity over resources (Sherif & Sherif, 1969) such as power, attention, and prestige. Another theory is the Symbolic Threat Theory which states that intergroup conflict arises over differing beliefs (Riek, Mania, & Gaertner, 2006). The final theory is the Integrated Threat Theory which suggests that a group experiences threat from other groups based on competition over resources *and* discord over different social norms and beliefs (Stephan & Stephan 1996, 2000). Exclusion from an outgroup fits the Realistic Group Conflict

Theory very well. This is because exclusion can make it difficult to fulfill human's need for belonging and attainment of necessary resources (Baumeister & Leary, 1995). As a concrete example, if someone is excluded, they may feel lack support in times of trouble (such as sickness).

Effects of Realistic Group Conflict

Conflict over resources, as is described by RGCT, can cause pervasive effects. According to Kassin (2006), when resources such as power and land are limited, one group will inevitably end up better off than others. This leads to those who lost these valuable resources feeling upset while the winners will be concerned about losing their status. As negative emotions become overall stronger, hostility can break out between groups. This conflict can lead to increased prejudicial attitudes developing towards an outgroup (Riek, Mania, & Gaertner, 2006). Prejudicial attitudes such as stereotyping can be hurtful. The development of negative stereotypes about an outgroup can further amplify negative emotions towards that group (Stephan & Stephan 1996). Increased prejudice is especially prevalent when a group of high status is threatened by a group of lower status (Riek, Mania, & Gaertner, 2006), further showing how fighting over resources leads to increased prejudice. Thus, if someone is threatened by an outgroup (especially an outgroup with which one is fighting over resources with), that symbolic threat can lead to increased prejudice.

Cortisol

One physiological marker that has been extensively studied in relation to social interactions is cortisol. After experiencing a stimulus that is stress-inducing, corticotropin-releasing factor stimulates the hypothalamic-pituitary-adrenal (HPA) axis to produce a physiological response to stress (Smith & Vale, 2006). According to Kirschbaum and

Hellhammer (1989), one of the steroid hormones that is released as a result of stressful situations is cortisol. Cortisol plays a part in regulating the immune system, cardiovascular system, and other physiological aspects in the stress response (Smith & Vale, 2006). Cortisol levels currently circulating in the body can be accurately and non-invasively measured via saliva (Hanrahan, McCarthy, Kleiber, Lutgendorf, & Tsalikian, 2006). As someone feels stressed, they should have an increase in levels of circulating cortisol.

Cortisol and Exclusion/Rejection

Exclusion and rejection have been shown to have an effect on cortisol. Dickerson and Kemeny (2004) integrated the results from multiple cortisol studies in a meta analysis and found two main sources of cortisol elevation. The first source is uncontrollable elements. These can be a variety of different things, so long as they are something that the participant cannot change themselves. Since exclusion is something that participants have no control over, this can be viewed as a form of uncontrollability; Thus exclusion should elevate cortisol levels. They also found that social evaluation is a major factor that elevates cortisol levels. Rejection is a form of negative social evaluation, so this should increase cortisol levels as well.

Blackhart, Eckel, and Tice (2007) conducted a study in which they had participants interact in a group setting after providing an initial cortisol level. They then had the participants inform the researcher of their favorite two partners which they prefer to work with. At this point, they either made participants feel rejected (by telling them they would work alone since no one selected them), accepted (by pairing them with someone), or neither (by informing them that the researchers made a mistake in that participant's assignment). Importantly, the group that was made to feel rejected by their peers had significantly elevated levels of cortisol compared to the control and accepted groups.

Cortisol and Prejudice

Both cortisol and stereotypical attitudes are elevated after negative interactions such as intergroup threat and exclusion. One study conducted by Bijleveld, Scheepers, and Ellemers, (2012) aimed to establish the relationship between intergroup threat, similarity, HPA axis activity, and similarity. They found that for participants who expect to interact with outgroup others (especially those dissimilar to themselves), levels of prejudice and cortisol were related. Specifically when someone knows they will interact with dissimilar, outgroup members, high levels of cortisol predicted prejudice, while the same prediction was not established when people expect to interact with ingroup members. Thus, both cortisol and prejudice are increased after negative interactions with others believed to be dissimilar to one's self.

Politics as a Group Distinction

One form of ingroup and outgroup differentiation is political views and partisanship. Political groupings are formed from similar ideologies, meeting a similarity basis for grouping. The parties also compete for both belief dominance and power during elections, increasing intergroup conflict between them. Over the past few years, political parties have been increasingly polarized (Abramowitz & Spencer, 2015). The political divide between parties was exacerbated during the 2016 presidential elections, and opposing political parties now view each other negatively (Mason, 2018). Thus, with the differences increasing between parties and the presence of intergroup conflict, this should be a strong basis to differentiate groups.

Current Study

To summarize, increasing partisanship is creating a larger divide between political parties. It is therefore increasingly important to study the effects of interactions. As reviewed above, rejection alone can cause a change in both physiology and behavior by increasing cortisol

and prejudice. Since exclusion from an outgroup incorporates both rejection and a form of intergroup threat, the increase of both cortisol and prejudice should be higher than if someone is rejected by an ingroup member. These findings lead to the question: How will rejection from members of similar political party compare to rejection from opposite political parties? It was hypothesized that outgroup rejection will increase cortisol and prejudice more than similar interactions with an ingroup.

CHAPTER 2

METHODS

Participants

Sample Size

In total, the sample included fifty participants from the University of Northern Iowa SONA system (an online participant recruitment software). Each participant involved in the study was enrolled in an Introduction to Psychology course and received course credit for their participation. IRB approval was obtained prior to recruiting participants in the study.

Demographics

Of the sample, 62% were female and 38% were male. All participants indicated that they were 18 years of age or older with ages ranging from 18 to 28 years old. As for ethnicity, 74% of participants were white, 8% were Asian or Pacific Islander, 8% were African American, 6% were Hispanic, and 4% identified as an ethnicity other than the aforementioned groups. All but 6% of participants were United States citizens.

Political Ideology and Party

The political ideological makeup of participants according to a self-report measure were as follows: 22% were liberal, 10% were moderates with a liberal leaning, 30% were moderates with no leaning, 20% were moderate with conservative leaning, and 18% were conservative. The distribution of political party was also fairly varied among participants. In total, 24% of participants identified as either strong or weak democrats, and 24% of participants identified as either strong or weak republicans. The largest political identification was independent at 28%. Ten percent of participants saw themselves as independent with a democratic leaning while 8%

of participants were independent with republican leaning. The remaining 6% of participants identified as something other than the aforementioned groups.

Procedure

Upon participant arrival to the study, the participants signed consent forms which were stored in a safe location separate from all other information relating to the participant. They were then directed to complete an online questionnaire containing questions pertaining to their cortisol sample (such as when they last ate, if they are on medication, and when they woke up in the morning), political ideology, prejudicial levels towards immigrants, and various other measures. After this, they were directed to rinse their mouths out with water and provide an initial saliva sample to measure cortisol (as described below).

Next, the participants were logged into the online chatroom using the procedure developed by DeSoto, Hitlan, Deol, and McAdams (2010). The participant was labelled as *Participant 1* and informed that they would be interacting with students from other universities across the United States. They were also told that the moderator would provide a group similarity index based on the questionnaire the participant took and would give them further instructions on the group decision-making task. At this point, the deception begins as the other three participants and moderator were all actually played by the researcher in a separate room. The group similarity index was also fabricated to reflect that the participants were all "very similar" or that *Participant 1* was "substantially different" based *solely* on their politically-related responses in the questionnaire in order to establish ingroup and outgroup distinctions. The participant was not informed about any other variables about the other three faux participants so that political ideology was the sole basis for group distinction.

After three minutes from the similarity index feedback, the participants were given instructions for their collaborative task. This task is based off of the *Arctic Expedition Manuel* created by Ukens (1998). In this measure, participants were given a situation in which they are stranded in a blizzard during a sight-seeing trip and must return to their cabin for safety. The group was instructed to select 6 out of 9 items that would best help their survival. They were also informed that their performance would be compared to other groups in their ability to determine the correct 5 most useful items in order to prime the patient to think about intergroup threat.

Initially, this participants were given minimal, non-encouraging responses such as "*I don't really like that idea*." Then, after three minutes, the participant was no longer be acknowledged by the other group members in order to simulate exclusion. At the 8 minute mark, the participant was acknowledged once to assuage any thoughts of computer malfunction on the participant's behalf. If the participant declared that they felt left out, the researcher did not respond to the complaint to continue to induce exclusion. After this, the participant returned to being ignored by the other group member for the remainder of the interaction.

After the group interaction concluded, the participant retrieved the researcher from a separate room. They were then directed by the researcher to complete two more questionnaires containing various measures (such as a second prejudicial attitudes based on symbolic threat towards immigrants scale). Finally, the participant provided a second saliva sample, was debriefed about the true nature of the study and necessity of deception, and had the opportunity to ask the researcher questions. Once they felt their questions were answered, the participant was dismissed from the session.

Measures

Similarity

In order to test if the manipulation was effective, participants were asked two self-report questions in the second questionnaire about their perceived similarity to the participants they interacted with. The first question was "*To what extent do you believe your political attitudes are similar to those of the other members of your discussion group?*" with response options ranging from *"not at all similar (1)"* to *"extremely similar (5)"* on a Likert five point scale. The second question was "*How similar did you feel toward your other group members during the group discussion?*" with the same Likert scale for response options.

Exclusion

To see if the exclusion was effective, participants were asked "*How included did you feel by the other members of your group?*" on the second questionnaire. Their response options included a five point Likert scale with "*Not at all included"* at one and "*Extremely included"* associated with five.

Cortisol

Cortisol was collected before and after the interaction via passive drool through polypropylene funnels into labelled cryovials. The samples were frozen at -40 degrees Fahrenheit within five minutes of sample collection until they were analyzed using a competitive immunoassay procedure as out-line by the *Expanded Range High Sensitivity Salivary Cortisol Enzyme Immunoassay Kit* (2016).[1] Two high cortisol controls and two low cortisol controls were analyzed in order to calculate Inter-assay Coefficient of Variability. If this value was greater than 15%, the plates were re-analyzed. Two of each sample were also collected and analyzed in order to calculate Intra-Assay Coefficient of Variability. If this value was greater than 10% for a

[1] The only deviation from this procedure was using 20 µL of conjugate to 32 mL of Assay Diluent rather than 15 µL of conjugate to 24 mL of Assay Diluent that the kit recommends. This was done to increase the quantity of mixture available for analysis. However, this did not alter the Enzyme Conjugate dilution of 1:1600.

specific sample, the sample was re-analyzed. The sample had an Inter-Assay Coefficient of Variability of 4.47 and an Intra-Assay Coefficient of Variability of 6.33. The cortisol levels were recorded as μL/mL and were ready for analysis.

Prejudice

Prejudice was measured before and after the interaction on two different scales. The first scale based on Stephan, Walter and Cookie (2000) asked participants about how much *admiration, hostility, dislike, acceptance,* and *superiority* they felt towards immigrants. The response options for participants was on a Likert scale where one indicates none of the aforementioned feeling and ten indicated extreme of the aforementioned feeling. The responses related to high prejudice (such as a "one" in admiration) were reverse coded so that higher scores indicated higher prejudice. The second scale after the interaction was based on Berrenberg, Finlay, Stephan, and Stephan (2007). In this, participants were asked to rate how strongly they agree with twelve statements regarding immigrants on a Likert scale with *"Strongly agree"* associated with one and "*Strongly Disagree"* associated with six. Questions were then appropriately coded so that higher scores were associated with more prejudice. Answers from the initial questionnaire and final questionnaire were converted to z-scores so that the two response sets were comparable. The change between initial and final prejudice levels were compared as a function of similarity condition.

CHAPTER 3

RESULTS

Manipulation Checks

Out of fifty participants, eleven verbally indicated that they knew the true nature of the study during the debriefing session. Nine of these participants stated that they realized that the interaction was ingenuine and subsequently realized that they were being purposefully excluded. Some participants indicated that a friend in the class told them about the true nature of the study prior to their arrival. Participants who stated that they knew the true nature of the study were removed from subsequent analysis.

Similarity

The first manipulation check questions pertain to similarity to ensure that the participant was aware of their condition within the interaction. Three participants skipped these questions and were cut from analysis of similarity. The question regarding general similarity feelings towards the others in the group did show that participants in the low similarity condition felt less similar to their group members (M = 1.56, SD = 1.15) than participants in the high similarity condition (M = 2.35, SD = 1.04). This difference was significant, $t(36) = -2.24$, $p = .02$, one-tailed. Participants in the low similarity condition also felt that they were more politically different (M = 1.39, SD = 0.70) than participants in the high similarity condition (M = 3.05, SD = 0.83) as shown in Figure 1. This was also significant, $t(36) = -6.66$, $p < .01$, one tailed. Combined, these results indicate that the ingroup and outgroup status manipulation was successful.

Exclusion

The final manipulation check was a self-report indicating how included participants felt during the interaction. Four participants did not respond to this question, so they were not included in the analysis of exclusion. The average level of "inclusion" that participant felt was 1.42 out of 5. This number relates to a general feeling of being excluded in the interaction. Participants in the low similarity condition felt excluded (M = 1.33, SD = 0.59) as did the participants in the high similarity condition (M = 1.50, SD = 0.62). There was no significant difference between conditions, $t(34) = -0.83$, $p = 0.42$. This indicates that all participants were subject to similar exclusion levels throughout the interaction.

Cortisol

Three participants provided insufficient levels of saliva to obtain accurate and reliable cortisol measures. Another three participants had arrived to the study shortly after waking up that day, thus their change in cortisol from the manipulation was presumably overridden by the normal cortisol awakening response wherein there is a sudden, sharp change in cortisol after waking (Wust, Wolf, Hellhammer, Federenko, Schommer, & Kirschbaum, 2000). These participants were also subsequently cut from cortisol analysis.

As is typical in salivary cortisol research (Kobayashi & Miyazaki, 2015), the cortisol samples were positively skewed with an elevated kurtosis. In order to normalize the data, each sample was $\log_{10}$ transformed (Tabachnick & Fidell, 2007).

To analyse change in cortisol across conditions, the difference between pre-interaction and post-interaction cortisol was calculated. This difference variable then analyzed via an independent sample t-test as a function of similarity condition. Levene's Test for Equality of Variances ($F = 4.6$, $p = 0.04$) indicated equal variances could not be assumed and the t scores were appropriately corrected. There was a difference, $t(21.96) = 2.05$, $p = 0.03$, in cortisol

elevation between the high similarity condition (M = 0.0024, SD = .041) and low similarity condition (M = 0.18, SD = 0.29). This indicates that cortisol did increase more for people excluded by dissimilar others compared to exclusion by similar others as shown in Figure 2.

Prejudice

Seven participants did not complete both prejudice questionnaires, so they were cut from prejudice analysis. The two prejudice measures were coded so that all "high prejudice" responses resulted in higher scores. Since the pre-interaction and post-interaction measure had different Likert scale and may not be equivalent constructs, each "prejudice score" was converted to a z-score for comparison. The difference in prejudice scores was taken between pre- and post-interaction for subsequent analysis. Counter to the hypothesized result, participants in the low similarity condition showed a decrease in prejudice levels (M = -0.13, SD = 0.84) compared to participants in the high similarity conditions (M = 0.28, SD = 0.81). This difference was not statistically significant, $t(32) = -1.44$, $p = 0.16$. Prejudice change was also examined as a function of exclusion alone without any difference between conditions. There was no significant difference here $t(33) = 0.63$, $p = 0.53$. Thus, the hypothesis that prejudice would increase more in people excluded by a dissimilar group than those excluded by a similar group was not supported.

Exploratory Analysis

Some additional correlational analyses were performed to examine various relationships. The first additional analysis performed compared how generally similar participants felt towards their group members and their cortisol change. There was a negative correlation between similarity and cortisol, $r(32) = -0.48$, $p < .01$. This indicates that as perceived feelings of similarity decreases, cortisol increases as shown in Figure 3. Additionally, this is a fairly strong finding for comparison between physiological measure and paper and pencil questionnaire.

Analyses regarding general perceived similarity, political similarity, cortisol and prejudice did not yield statistically significant results.

CHAPTER 4

DISCUSSION

General Discussion

In both high similarity and low similarity conditions, cortisol increased which is presumably due to the overall exclusion that participants reported experiencing. These findings are congruent with Blackhart, Eckel, and Tice (2007) wherein rejection is related to increasing cortisol levels. Cortisol also increased for participants excluded by an outgroup compared to people excluded by an ingroup. Since the level of perceived inclusion was not different per condition, difference in amount of cortisol increase is likely due to the difference in similarity rather than another variable. These findings suggest that exclusion by an outgroup member is stressful, as evident by increasing cortisol.

Additional correlational analysis show similar results. As perceived general similarity with others decreases, cortisol increases. This relationship was not observed when comparing feelings of political difference and cortisol, despite political difference being the only basis for similarity differentiation within the study. One may argue that participants focused more heavily on general similarity compared to political similarity within the artificial feedback given to participants. The effect size was larger for general similarity ($F = 0.011$) than for political similarity ($F = 0.003$). Perhaps that means that for some participants, their political similarity had little influence on how similar they saw the other group members. Further study would be needed to examine the relationship between perceived political similarity, perceived general similarity, and cortisol changes to make further conclusions.

Unlike the findings by Bijleveld, Scheepers, and Ellemers (2012), interaction with dissimilar members did not increase prejudice levels. Exclusion in general, regardless of

condition, was also not related to prejudice levels. Perhaps the results would have been stronger if more participants had been included in the sample that hadn't recognized the deception. Another explanation for these results is the use of different prejudice measures within the pre- and post- interaction questionnaires. These two different question sets, while both seemingly asking about attitudes towards immigrants, measure slightly different constructs. Future studies may obtain significant results if they do a split half analysis (pre- vs post- chatroom interaction) using measure.

Limitations

Other than the aforementioned limitation of using different prejudice measures, a few other aspects limited this study. After participant nineteen, a new chatroom was used since the original chatroom went out of business. The original chatroom also allowed a function where participants could see the last interaction log. Participants were discouraged from exploring the options and settings for the chatroom where this was located, but that may explain the high number of participants that knew about the deception. A total of nine out of the eleven participants removed from the study were out of the first nineteen participants using the original chatroom. These are also the participants that had indicated that they knew the interaction was ingenuine as the interaction progressed.

Another limitation of the study is demographic makeup of the sample. All participants were college students at University of Northern Iowa. This may make the sample difficult to generalize to any population outside that description.

Future Direction

Future studies could look at the effect that perceived similarity has on cortisol levels based on the finding that similarity and cortisol are negatively correlated. Another factor that can

be analyzed could be how and when political similarity and general similarity relate. In this study, only perceived general similarity was correlated with cortisol. Does political similarity really have less of an effect than perceived similarity? Why? Additional research is needed. Future researchers may also consider conducting an ingroup/outgroup rejection study with improved prejudice measures.

Concluding Remarks

Previous research has shown that intergroup threat and exclusion can increase prejudice and the stress hormone cortisol. These results also showed that exclusion from an outgroup increases cortisol more than exclusion by an ingroup. Contradicting past research, prejudice did not have a statistically significant change after the interactions. Additionally, exclusion by others perceived as very dissimilar is related to larger increases in cortisol than with those similar to them. Since perceived general similarity had a stronger effect then political similarity, future research may examine the factors such as attitudinal strength, demographics, and personality that most influence perceived similarity. Perhaps a unique political time made people told they were different (based on political answers) perceive they were very different across domains. Further study is needed.

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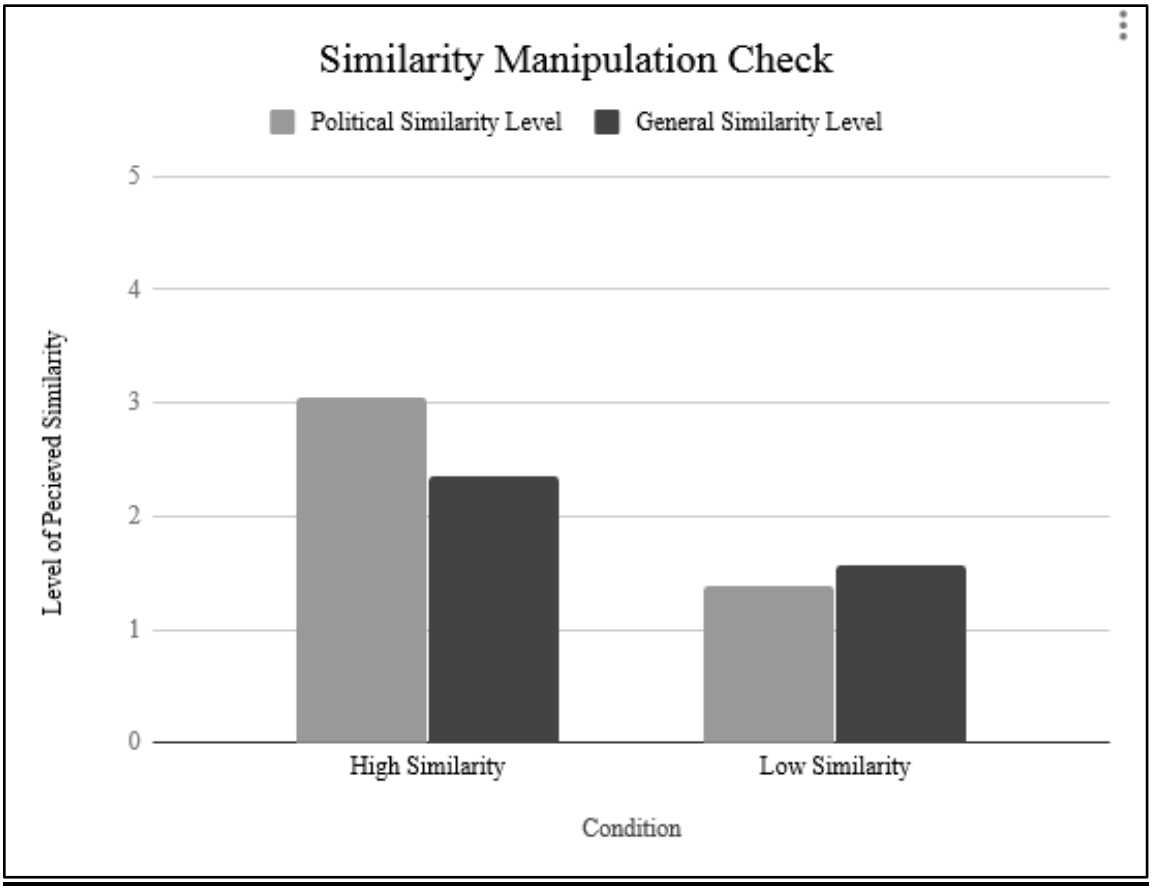

Figure 1. A comparison of perceived general similarity and political similarity between participants in high similarity and low similarity conditions.

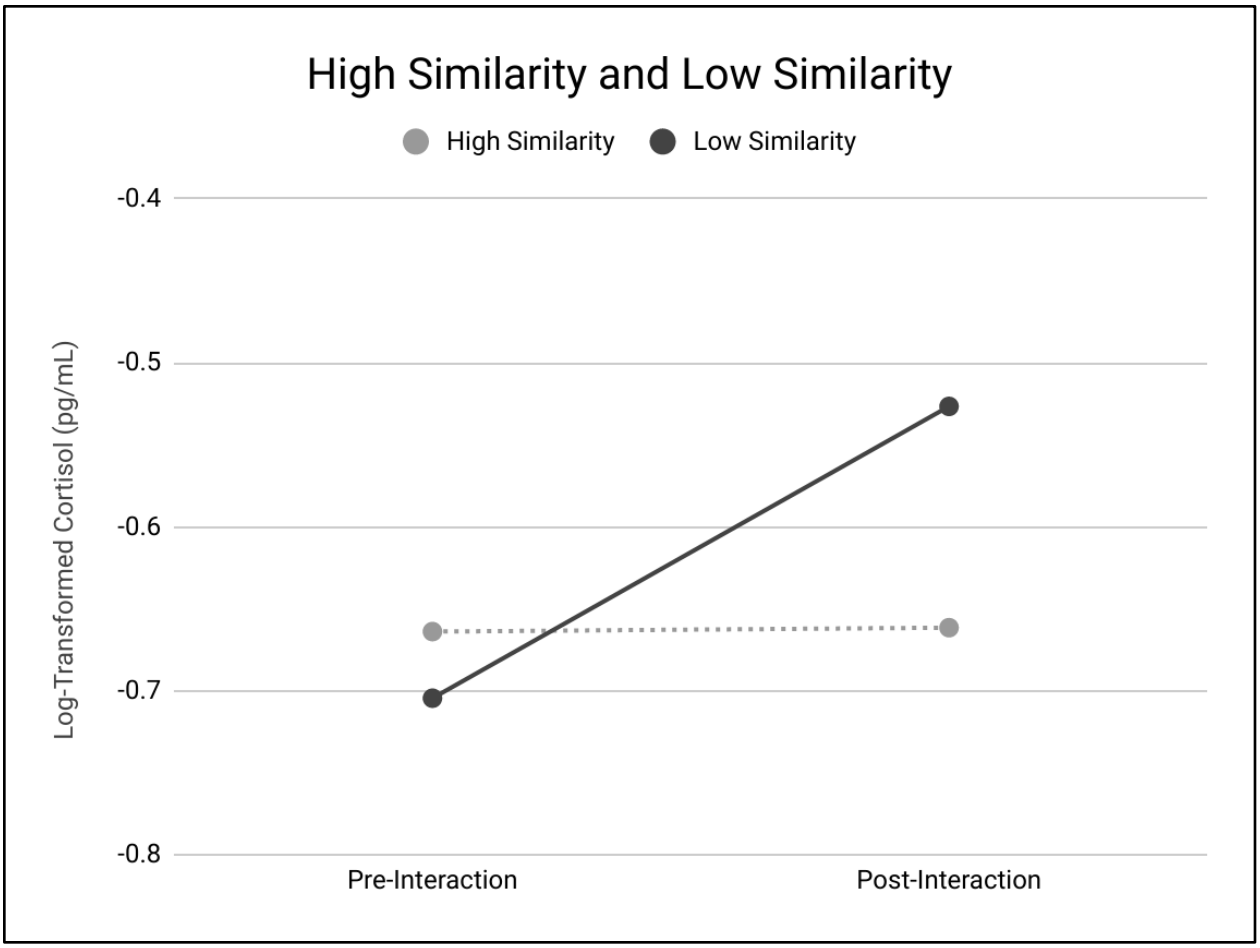

Figure 2. A comparison of cortisol change through the interaction between participants in high similarity and low similarity conditions.

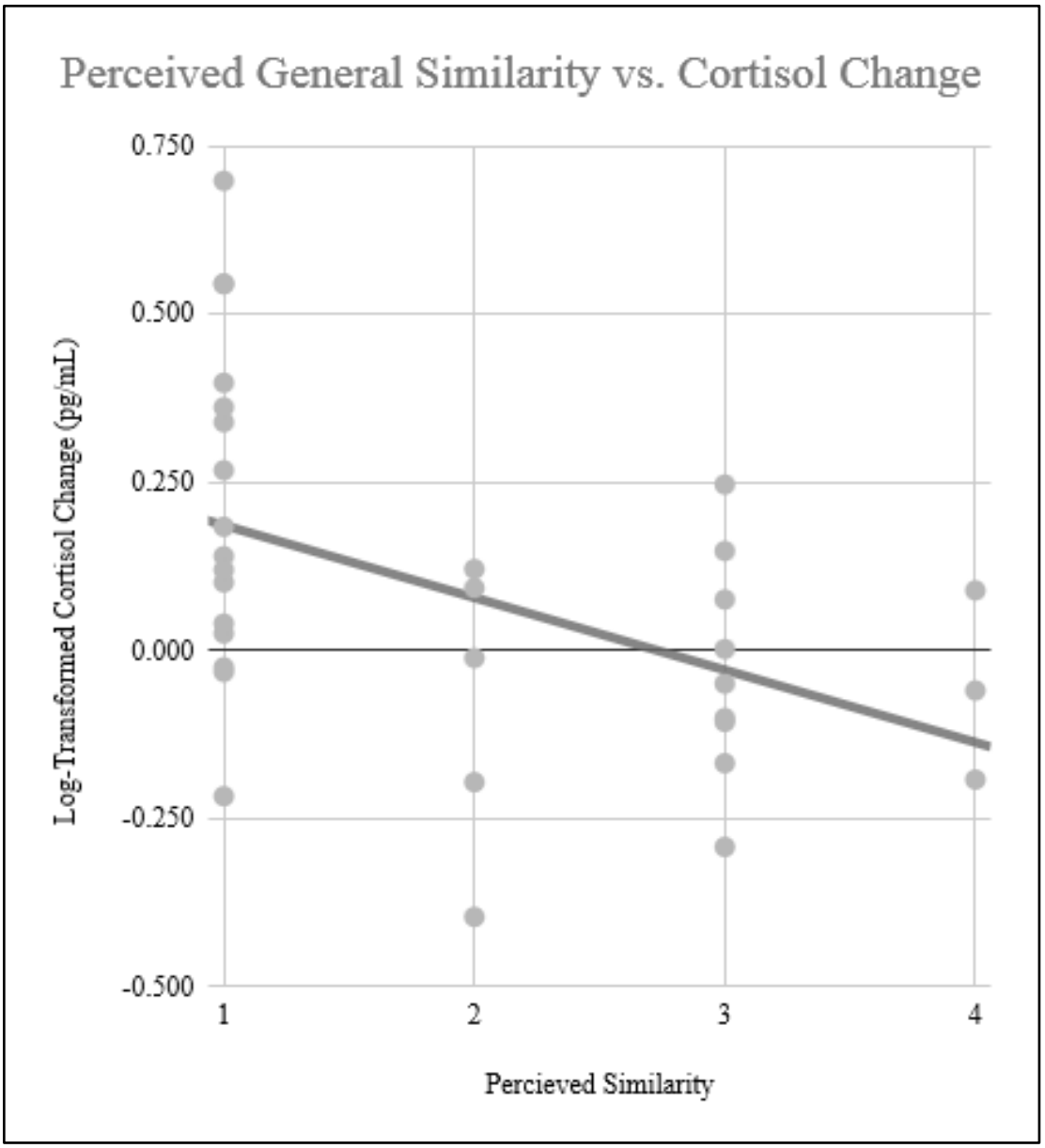

Figure 3. The negative correlation between perceived similarity and cortisol change.