The Influence of Happiness on the Perception of Ingroup and Outgroup Stereotypes

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THE INFLUENCE OF HAPPINESS ON THE PERCEPTION OF INGROUP AND OUTGROUP STEREOTYPES

A Thesis
Presented to
The Faculty of the Department of Psychology
San José State University

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts

by
Diego R. Gómez
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The Designated Thesis Committee Approves the Thesis Titled

THE INFLUENCE OF HAPPINESS ON THE PERCEPTION OF INGROUP
AND OUTGROUP STEREOTYPES

by

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APPROVED FOR THE DEPARTMENT OF PSYCHOLOGY

SAN JOSÉ STATE UNIVERSITY

May 2022

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ABSTRACT

THE INFLUENCE OF HAPPINESS ON THE PERCEPTION OF INGROUP AND OUTGROUP STEREOTYPES

by Diego R. Gómez

An important social issue that influences judgments between ingroups and outgroups is how moods influence stereotype judgments. For instance, research on moods has provided evidence that happiness increases stereotype judgments. However, research has not considered the impact of individuals’ ingroup membership and how it may moderate these effects. The purpose of this study was to explore the potential moderating role that ingroup membership may have on the effects of happiness on stereotype judgments. University student participants in a happy or neutral induced mood completed a disciplinary task to assess guilt of either a Hispanic or non-Hispanic suspect of an assault case. A 2 (mood: happy vs neutral) x 2 (stereotype information: present [suspect is Hispanic] vs absent [suspect is non-Hispanic]) x 2 (ethnic group membership: Hispanic [i.e., ingroup] vs non-Hispanic [i.e., outgroup]) between-subjects factorial ANOVA was conducted. The results did not support past research that happiness increases reliance on stereotype judgments. Furthermore, the results did not support the hypothesis that ingroup membership would moderate the relationship by further increasing the effects between happiness and increased reliance on stereotype judgments. Practical directions and implications for future research are discussed.
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Finally, I am extremely grateful for my family in supporting me through this very challenging and rewarding journey. Thank you for helping me keep my sanity!
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Introduction

As humans, it is inevitable that we will experience a wide array of mood states every day. For instance, getting a promotion, graduating from college, getting married, or simply having a family gathering can lead to the mood we know as happiness. Furthermore, the moods we experience influence our day-to-day thinking (Bower, 1991; Lerner & Keltner, 2000; Wilder, 1993). For instance, past research has found that certain mood states may lead to systematic (i.e., careful) cognitive processing while others may lead to heuristic (i.e., fast and simple) cognitive processing (Forgas, 1991). Put differently, moods can affect our way of thinking by influencing the way we process information. By impacting cognitive processing, moods can also influence our behavior, attitudes, and judgments. For instance, research in this domain has provided evidence that moods can affect judgments, attitude change, prosocial behavior, motivation, and even bargaining (Park & Banaji, 2000; Petty & Cacioppo, 1986). The studies that comprise this body of literature demonstrate how changes in mood states may impact social behavior and mental processes in systematic ways. What is less known, however, is how group membership based on ethnicity may influence the effect that moods have on our judgments. Given the current political climate, in which ethnic group membership is highlighted in the social sphere, it is pertinent to understand if there are any disparities in the manner in which mood affects judgments based on an individual’s ethnic group membership.

Happiness and Stereotype Use

One way in which moods can influence our thinking is by influencing our social judgments and in particular, the use of stereotypes about various social groups. For instance, there is evidence that the mood state of happiness leads to an increased sense of wellness, as it serves as a biological signal for a lack of a threat. Given this function of happiness, it inhibits motivation to use cognitive effort when processing information (Park & Banaji, 2000). In addition, other
researchers have demonstrated that happiness interferes with individuals’ ability to focus attention and distracts them from engaging in careful systematic processing (Asuncion & Lam, 1995; Worth & Mackie, 1987). As a result of decreased systematic processing, happy individuals are more likely to use categorical information when formulating thoughts about different groups. Thus, happy individuals are more likely to use common knowledge (which may be erroneous but widely believed) about social groups when making judgments about those groups. In general, happiness has been demonstrated to increase the use of stereotype judgments by individuals experiencing this mood state (Bodenhausen, 1990, 1993; Bodenhausen et al., 1994a, 1994b).

For example, a seminal study conducted by Bodenhausen et al. (1994a) showed that happiness elicits an increased reliance on stereotypes in social judgments. In this experiment, happiness was induced by having participants write about a day that made them happy. Participants in the control condition were induced to a neutral mood by writing about their daily routine activities. Participants were then given a vignette describing a suspect accused of a violent crime in which half of the information indicated guilt and the other half indicated innocence. The crime description was ambiguous deliberately to allow for judgments based on stereotypes. Participants were then asked to pretend they were in a jury situation to make a judgment about how likely the suspect was guilty of the crime. Half of the participants had a vignette in which the name of the suspect was of Hispanic origin (stereotype-present condition, as violence is stereotypically associated with Hispanics) while the other half had a vignette in which the name of the suspect was of Caucasian origin (stereotype-absent condition). The results showed that participants in the happy condition were more likely to use stereotype judgments than participants in the neutral condition when the suspect was of Hispanic origin than when the suspect was of Caucasian origin. Researchers concluded that happiness increases stereotype
judgments because happy individuals were less likely to think systematically about individual information and relied more on stereotypes to make their judgments. Put differently, the researchers concluded that happy individuals were more likely to engage in heuristic cognitive processing, which increases the categorization of groups. Given that stereotypes are a form of categorizing (Fiske & Morling, 1996), happy individuals categorize groups using stereotype social judgments. In addition, they found evidence that happy individuals were less motivated to think systematically because they wanted to retain the feeling of happiness by avoiding thinking carefully about other group members.

Follow up studies on the effects of happiness used similar methods to assess stereotype use of other groups and found similar results. For example, Curtis (2013) conducted a study on gender stereotypes and found that participants in the happy condition were more likely to use their gender stereotypes to form their judgments than participants in the neutral mood or anxious mood conditions. The results provided evidence that happy individuals relied on the female stereotypes of passiveness, as they rated females less likely to be guilty of an aggressive crime than neutral mood or anxious mood individuals. Similarly, Krauth-Gruber and Ric (2000) found that happy-induced participants rated skinheads to be violent and priests to be non-violent, in accordance to their respective stereotypes. These findings provided evidence that happiness can elicit stereotype judgment susceptibility not just toward different gender and ethnic groups, but also toward different social groups in general.

**Group Membership and Stereotype Use**

As previously discussed, despite the findings on how moods may influence reliance on stereotypes, researchers have yet to consider other variables such as group membership, which may influence or mitigate the relationship. Specifically, there is no research to date that addresses how ingroup membership (i.e., when both the individual making the judgment and the
person being judged belong to the same social group) influences judgments about ingroup stereotypes and the role ingroup membership may play in moderating the effects between moods and stereotype judgments.

It may be the case that ingroup membership not only influences the relationship between moods and stereotypes, but that it exacerbates the relationship, leading to a higher reliance on stereotypes in social judgments. This may help explain why there are higher levels of negative judgments that can lead to hostility toward the ingroup during times of distress, for example, through flag burning by citizens criticizing their own nation. Indeed, there is evidence to support this possibility. For instance, research on ingroup membership indicates that ingroup hostility may ensue when ingroup members behave in a stereotype-consistent manner (Piff et al., 2012). Similarly, March and Graham (2015) found evidence that Hispanic females had more negative attitudes towards Hispanic males than toward White males. These researchers concluded that ingroup members may rely more on negative ingroup stereotypes than do outgroup members. These studies suggest that ingroup members engage in ingroup hostility, ingroup-directed hostile mood, ingroup derogation, and ingroup-directed punishment when the ingroup commits an immoral act that threatens their self-image, which is contrast to other research that suggests that ingroup members favor one another (Brewer, 1999). Such findings indicate that group membership congruency (i.e., when both the individual making the judgment and the individual being judged are of the same social group) between the individual making the stereotype judgment and the individual being judged may affect the relationship between moods and stereotype judgments.

To illustrate these ideas more concretely, imagine that you and your friend who is of the same ethnic background (ingroup) as you are out in a public area enjoying your day. The scenery
of the location and the pleasant weather puts you in a happy mood. While on this adventure, you notice that your friend starts to act in a manner that is considered stereotypical of your shared ethnic group (i.e., both you and your friend are Asian-Americans and your friend starts to talk about how much he enjoys math and technology but does not like sports at all). In this scenario, how will you react to your friend’s stereotypical behavior? Will you be lenient and let them continue to act in this fashion? Or will you be hostile toward them and feel ashamed that they are acting in a manner that is stereotypically associated with your shared ethnic group? How will your initial happy mood influence your judgments about them?

What if the same situation as above applies but now your friend is of a different ethnic background (outgroup) and he is behaving in a manner stereotypically associated with their group (i.e., you are not Asian-American, but your friend is). How will you react then? Would you judge them similarly to or differently from the ingroup member from above? This study aims to explore these scenarios.

The proposed study attempts to determine if an individual’s group membership (in this case, ethnicity) is a moderating effect in the relationship between happiness and stereotype judgments. The findings will be useful in understanding the impact and limitations that moods have on stereotype judgments when taking group membership into account. In particular, it will be useful to investigate the likelihood that individuals will use stereotype judgments in situations that are pleasant and that induce happiness because it will provide evidence for situations that are counterintuitive--that happiness does not lead exclusively to positive outcomes. Ultimately, this study aims to investigate whether individuals are just as likely to use stereotype judgments in a party among friends of the same group as they are in other situations.
Current Study

Based on a social psychological theoretical framework, the purpose of this between-subjects study will be to test previous findings that the effects of happiness increase reliance on stereotype judgments, while taking into consideration participants’ group membership as a moderator. The experimental procedure will follow the methodology used in the Bodenhausen et al. (1994b) study described earlier with the addition of another variable (i.e., group membership based on participants’ self-identified ethnicity). The mood induction procedure as well as all vignettes and dependent measures used in this proposed study will also be the same as those used by Bodenhausen et al. (1994a) and will be described in more detail in the method section. Therefore, the independent variables for the current study were mood (positive or neutral), stereotype information (present or absent), and participants’ group membership based on their ethnicity (ingroup or outgroup). The primary dependent variable to assess use of stereotype judgments was a “guilt index” variable.

Hypotheses

Hypothesis 1 proposes a two-way interaction between participants' mood and stereotype information (i.e., either the presence or absence of the stereotype). Specifically, Hypothesis 1 predicts that happiness will increase reliance on stereotype judgments in the stereotype present conditions among participants. The logic for this hypothesis follows the results of past research (Bodenhausen et al., 1994a) where it was demonstrated that happiness increases heuristic thinking and increases the use of stereotypes.

Novel to this study, Hypothesis 2 proposes a three-way interaction between participants' mood, stereotype information, and group membership based on participants’ ethnicity (i.e., whether the participant identified as Hispanic or non-Hispanic). Specifically, Hypothesis 2 predicted that Hispanic participants (i.e., ingroup) in the happy and stereotype-present conditions
would rate the suspect as more guilty of the assault crime than non-Hispanic participants under the same conditions. Hypothesis 2 follows from past research (Piff et al., 2012) which found that ingroup members react with more hostility and negative judgments toward other ingroup members who behave in stereotype-consistent ways than outgroup members. Non-Hispanic participants in the happy and stereotype-present condition are also hypothesized to rely on stereotype judgments, but to lesser degree than Hispanic participants under those conditions. Therefore, it was predicted that ingroup membership will be a moderator, in that, it will further increase the effects between the relationship of happiness and reliance on stereotypes.

In short, happy participants, regardless of group membership, will show higher levels of stereotype judgments when there is stereotype present information (Hypothesis 1) and ingroup membership (i.e., Hispanic participants) will amplify the effects between happiness and stereotype judgments (Hypothesis 2).
Method

Participants

A convenience sample of 207 San José State University students were recruited from an undergraduate psychology course (i.e., Social Psychology) and from the psychology research participant pool for the study. The survey was created and distributed using Qualtrics (Qualtrics, 2022). Participants obtained course credit upon completion of the study. The ethical standards of the American Psychological Association (American Psychological Association [APA], 2002) were applied in the treatment of the participants and the study was approved by SJSU’s Institutional Review Board.

Design

The study design replicated the procedures used in Bodenhausen et al. (1994a), Curtis (2013), Strack et al. (1985), and Marina (2014). Specifically, participants were randomly assigned to one of the conditions for mood and stereotype information, then their group membership based on ethnicity was included in the analysis as a between-subjects variable. The design of the analysis was a 2 (mood: happy or neutral) x 2 (stereotype information: present or absent) x 2 (ethnic group membership: Hispanic [ingroup] or non-Hispanic [outgroup]) between-subjects factorial design. This analysis examined both Hypothesis 1 (i.e., happy participants in the stereotype condition will rely on stereotype judgments more than neutral participants) and Hypothesis 2 (i.e., ingroup membership of participants based on ethnicity will moderate the relationship between happy mood and increased stereotype judgments by further increasing the effect). As described earlier, Hypothesis 1 predicted a two-way interaction between mood and stereotype information. Hypothesis 2 predicted a three-way interaction between mood, stereotype information, and the ethnic group membership of the participants. To test these hypotheses, a 2 (mood) x 2 (stereotype information) x 2 (ethnic group membership)
between-subjects ANOVA was conducted with the “guilt index” variable as the dependent variable to assess reliance on stereotype judgments.

**Materials**

*Demographic Questionnaire*

A demographic questionnaire that included four items about participants' age, gender, ethnicity, and race was provided to participants (see Appendix C). The question about ethnicity was dichotomous, with the options “Hispanic or Latino?” or “Not Hispanic or Latino?”. This question was used as a between-subjects variable later in the analysis.

*Mood Manipulation and Mood Questionnaire*

Participants’ mood was induced using a similar technique as Bodenhausen et al. (1994b). Participants in the happy condition were asked to type about an event in their life that made them happy. Participants in this condition were asked to provide as much information and detail about the happy event during the five minutes provided to type their answers (see Appendix A). Research has successfully demonstrated that this method elicits happiness in participants (Bodenhausen et al., 1994a). In the neutral condition, participants were given five minutes to vividly describe their daily routine (i.e., what they typically do in the morning, afternoon, evening, etc.) (see Appendix B). Again, this technique has been found to successfully induce a neutral mood (Bodenhausen et al., 1994a).

Additionally, to increase the effectiveness of the mood manipulation, participants were instructed to play music in the background by pressing the “play” button displayed on the computer screen. The music manipulation was included to ensure the mood states induced during the original mood manipulation (i.e., writing task) would endure as participants read the stimuli about the physical assault case. Also, given that study was conducted exclusively on-line (instead of in-person as most studies on mood have been), the addition of music was included to maintain...
participants' induced mood throughout the study. In the happy condition, participants were asked to play “Brandenberg Concerto No. 3” by Johann Sebastian Bach. In the neutral condition, participants were asked to play “Waltz No. 12 in F minor” by Frédéric Chopin. The music selected for each condition was based on prior research that successfully demonstrated that each piece of music elicited the intended mood states Green et al. (2003), Marina (2014), and Wood et al. (1990).

To assess the effectiveness of the mood manipulation, participants were asked to complete a mood manipulation questionnaire. This questionnaire included questions directly related to participants’ mood (see Appendix D). There were 9 questions in total, with certain items being filler, such as “How challenging was it for you to complete this task in the given time?”. Other items were specifically related to mood manipulation, such as “how happy do you feel at this time?”. For example, 4 items were used to assess the effectiveness of the mood manipulation, including terms such as mood, excited, cheerful, and feel. Participants’ responses were indicated on 5 point Likert scales, with 5 indicating higher levels of good mood, excitement, cheerfulness, and happiness.

**Cover Story: San José State University Peer Disciplinary Review Panel**

Based on prior research (Marina, 2014), an Introduction to the San José State University’s (SJSU) Office of Student Conduct and Ethical Development was included as a cover story for the disciplinary case and the review panel method based on student peers (see Appendix E).

**Non-Hispanic/Hispanic Suspect Case**

A case summary, with either a non-Hispanic student named John Garner, or a Hispanic student named José Garcia was provided. The case described the students as suspects in a crime in which a fellow university student was violently attacked. The details about whether the suspect (i.e., either John or José) was guilty of the assault crime were left intentionally
ambiguous to assess whether participants were using the stereotype judgment that Hispanics are violent and aggressive (Bodenhausen et al., 1994a) (see Appendix F).

**Non-Hispanic/Hispanic Suspect Case Guilt Rating**

Finally, a suspect guilt rating questionnaire, in which participants were asked to provide their rating on the likelihood that the suspect (i.e., either John or José) was guilty of the crime described. The guilt rating was based on a 5-point Likert scale, from 0 (“extremely unlikely”) to 5 (“extremely likely”) (see Appendix G).

**Procedures**

Participants were recruited in an undergraduate psychology course in exchange for extra credit for their participation. Additionally, participants were recruited through the SONA system in which introductory psychology students earn course credit for signing up to participate in experiments. Participants were given access to an anonymous Qualtrics link to take the study. Participants were provided with a consent form page in the online study notifying them of the purpose, procedure, the risks of the study, compensation for participating, and how confidentiality will be held. Participants were also informed of their right to refuse to participate in the study and their right to leave the study at any moment. Participants were informed that by pressing the continue button in the consent form, they agreed to participate.

Before the mood manipulation section, participants were asked to answer demographic information questions (Appendix C). This included questions about age, gender, ethnicity, and race. Then, a cover story was used to prevent participants from identifying the purpose of the study (which could have potentially affected their responses to the subsequent questionnaires). In particular, participants were informed that they would complete two studies that were unrelated to one another. They were informed that one study related to how music influences memory and that the other study related to the potential implementation of a peer university judiciary system.
**Mood Manipulation**

Based on Bodenhausen et al. (1994a), participants in the happy condition were asked to type about a past happy event with vivid detail, with an emphasis on “reliving” the moment. In this condition, participants were informed that the purpose of the study was to assess how music and moods influence memory. Participants in the neutral condition were asked to type about their daily routines in as much detail in the time provided (a prompt on how to begin was provided). They were informed that the purpose of the study was to identify how music affected memory of past events.

In addition to writing about either a happy or typical day in their lives, participants were also told to push a "play" button so that they would listen to music corresponding to the induced mood. This music was intended to further strengthen the intended mood to be induced in participants. Specifically, participants could play music corresponding to their condition, which was pre-selected specifically to either the happy or neutral groups. The music played while participants read the instructions, describing their task. Participants were then asked to type their responses for a duration of five minutes before they could proceed. After the five minutes concluded, participants continued to the mood questionnaire to assess the effectiveness of the mood manipulation (Appendix D).

**Suspect Case Summary**

After the "first" study with the mood manipulation concluded, participants were then informed that they would now begin the "second" experiment. The “second” experiment informed participants that they would review information about the university’s strategy to resolve misconduct cases and then read a suspect case from a university to answer questions about the likelihood of guilt based on the information provided.
The cover story for the case was identical to Marina (2014) and adopted from Bodenhausen et al. (1994a), in which participants were informed that the San José State University Office of Student Conduct and Ethical Development was implementing a peer review panel of misconduct cases based on randomly selected San José State University students that would receive course credit for their participation (Appendix E). Participants were asked to take on the role of one of these randomly selected students by reviewing a past suspect case from a western university that was attempting to implement a similar peer review panel.

The suspect case utilized was identical to the task used in Bodenhausen et al. (1994a) and Bodenhausen et al. (1994b), in which one set of participants received the case in which the suspect was named John Garner (stereotype absent condition) and the other set of participants received the case in which the suspect was named José Garcia (stereotype present condition) (Appendix F).

After reviewing both the cover story and the suspect case summary, participants were asked to complete the suspect guilt rating questionnaire (Appendix G), in which they were asked several questions indicating how likely they believed the suspect (either John Garner or José Garcia) committed the crime in the vignette.

After completing the questionnaire, participants were debriefed on the true purpose of the study, how deception was used, and the hypotheses of the researchers. They were then thanked for their participation in the study.
Results

Demographics

Two-hundred and seven San José State students participated in the study. Of these 207 participants, 4 were excluded for not completing the second part of the study (i.e., the suspect case summary portion). After exclusion, there were a total of 203 participants included in the statistical analysis. Females made up most of the sample of participants at 62.6% (n = 127) with males making up only 35% (n = 71) of participants; non-binary/third gender made up 1% (n = 2) of participants and participants that chose the option “prefer not to say” made up 1.5% (n = 3) of the sample. For age, most participants were between the ages of 18 and 24, making up 85.7% (n = 174) of participants, followed by participants between the ages of 25 and 34, making up 10.8% (n = 22) of participants, then 35 and 44, with 2.5% (n = 5) of participants, and finally followed by those over 55, with 1% (n = 2) of the sample. Regarding ethnicity, 44.3% (n = 90) of participants identified as Hispanic while 55.7% (n = 113) identified as non-Hispanic.

Effectiveness of Mood Manipulation

To ensure participants engaged in the writing mood induction task previously described, only responses longer than 4 sentences in length for both the happy and neutral conditions were included in the analysis; responses for both conditions were of similar lengths. Then, to determine if the mood manipulation indeed elicited the mood intended, the responses for items 2, 3, 7, and 9 in the mood manipulation questionnaire present in Appendix D, were analyzed. A variable encompassing the means of items 2, 3, 7, and 9 was created and labeled “mood index”; the variable was utilized as a dependent variable to assess mood. Item 2 asked participants “What mood are you in at this time?” and indicated their response on a 5 point likert scale, where 1 = very bad and 5 = very good. Item 3 asked “How happy do you feel at this time?”; item 7 asked “How energetic do you feel right now?”; and Item 9 asked “How cheerful do you feel at this
time?”. All ratings were made on 5 point likert scales with 5 indicating higher levels of happiness, energy, and cheerfulness. The four items assessed participants’ mood had a high level of internal consistency with Cronbach's $\alpha = .85$.

The 2 (mood) x 2 (stereotype information) x 2 (ethnic group membership) between-subjects ANOVA analyzed participants’ responses on the mood index and it revealed a significant main effect of participants' mood as intended $F(1, 195) = 13.70, p < .001$. Participants in the happy mood condition reported feeling happier ($M = 3.78, SD = .84$) than participants in the neutral mood condition ($M = 3.37, SD = .77$), suggesting that the mood manipulation was effective. The analysis also revealed a marginally significant main effect for participant group membership based on ethnicity, $F(1, 195) = 3.86, p = 0.51$. This main effect suggested that the Hispanic participants felt happier overall ($M = 4.00$) than Non-Hispanic participants ($M = 3.60$).

**Guilt Rating Scores**

The main dependent variable was participants’ ratings of how guilty they believed the suspect in the physical assault case was. To assess guilt of the suspect in the vignette, items 1, 2, 3, and 4 from the suspect case guilt rating questionnaire in Appendix G were averaged into a dependent variable labeled “guilt index”. Item 1 asked participants “How strong is the case against John Garner (José Garcia)?”; item 2 asked “In your own personal opinion, how likely is it that John Garner (José Garcia) was the attacker?”; item 3 asked “If you were sitting on the student judiciary board, would you recommend any disciplinary action against John Garner (José Garcia)?”; and item 4 asked “If no action is taken, how likely is it that Timothy might be attacked again?”. All ratings were made on 5 point Likert scales, with higher scores indicating higher guilt judgments (i.e., a score of 5 would indicate that the participant believed the suspect was almost certainly guilty of the accused crime). Items included in the “guilt index” had a high Cronbach’s alpha ($\alpha = .73$), indicating high internal consistency.
Test of Hypotheses

Hypothesis 1 predicted that there would be a significant two-way interaction between mood and stereotype information. Specifically, Hypothesis 1 predicted that participants in the happy condition would provide higher guilt ratings in the stereotype present condition (i.e., Hispanic) than participants in the neutral condition, as the crime described in the vignette of violence is stereotypically associated with Hispanics. To test this hypothesis, a 2 (mood: happy or neutral) x 2 (stereotype information: present [i.e., Hispanic suspect] or absent [i.e., non-Hispanic suspect]) x 2 (ethnic group membership: ingroup [Hispanic] or outgroup [non-Hispanic]) between-subjects factorial design was conducted with the "guilt index" as the main dependent variable.

Contrary to Hypothesis 1, results did not reveal a significant two-way interaction between participants' mood and the presence or absence of stereotype information. Furthermore, the results of the analysis revealed that there were no other significant main effects or interactions. Specifically, for the mood main effect, the results were not statistically significant $F(1, 195) = .67, p = .41$. Similarly, the results for stereotype information based on the suspect’s ethnicity main effect were not significant $F(1, 195) = .76, p = .39$. The two-way interaction effect between mood and stereotype information was also not statistically significant $F(1, 195) = .80, p = .37$. As mentioned, the lack of a significant two-way interaction between participants’ mood and the presence or absence of stereotype information did not support Hypothesis 1 and did not replicate the results of Bodenhausen et al. (1994a). Figure 1 shows the standard deviations and means based on mood and stereotype information are presented.
As shown in Figure 1, happy participants in the stereotype-present condition ($M = 3.04, SD = .71$) gave numerically but not significantly lower guilt ratings than neutral participants in the stereotype-present condition ($M = 3.27, SD = .75$). This is in direct contrast to Hypothesis 1, which is based on the findings of Bodenhausen et al. (1994a), in which the two-way interaction between mood and stereotype information provided evidence that happy participants in the stereotype-present condition provided higher guilt ratings. Furthermore, Figure 1 shows that happy participants for the stereotype-absent condition ($M = 3.28, SD = .81$) gave numerically but
not significantly higher guilt ratings than neutral participants in the stereotype-absent condition 
\((M = 3.27, SD = .84)\). As previously discussed, these findings fit with a lack of significant main 
effect for either mood or stereotype information.

**Ethnic Group Membership of Participants**

Hypothesis 2 predicted that there would be a significant three-way interaction effect between 
the group membership of participants based on ethnicity (Hispanic [i.e., ingroup] or non-
Hispanic [i.e., outgroup]), mood (happy or neutral), and stereotype information (present 
[Hispanic suspect] or absent [non-Hispanic suspect]). Specifically, hypothesis 2 predicted that 
participant ingroup membership would serve as a moderator by further increasing the effect that 
happiness has on reliance on stereotype judgments. In other words, hypothesis 2 predicted that 
ingroup members (Hispanic participants) would rely on their stereotype judgments more than 
outgroup members (non-Hispanic participants) and rate the Hispanic suspect as more guilty than 
the non-Hispanic suspect. To test this hypothesis, another 2 (mood) x 2 (stereotype information) 
x 2 (ethnic group membership) between subjects ANOVA was conducted with the "guilt index" 
as the main dependent variable. Results of the analysis did not support hypothesis 2, as the 
predicted three-way interaction was not statistically significant, \(F(1, 195) = .11, p = .75\). In 
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effect for either mood or stereotype information.
Figure 2

Means for Guilt Ratings Based on Mood and Stereotype Information Regarding the Ethnicity of the Suspect Among Hispanic Participants

Note. n = 90.
Figure 3

*Means for Guilt Ratings Based on Mood and Stereotype Information Regarding the Ethnicity of the Suspect Among non-Hispanic Participants*

As seen in Figure 2 and Figure 3, happy Hispanic participants gave numerically but not significantly higher guilt ratings for the stereotype-present condition (i.e., Hispanic suspect) ($M = 3.22, SD = .71$) than non-Hispanic participants ($M = 2.94, SD = .74$). Neutral Hispanic participants also gave numerically but not significantly higher guilt ratings for the stereotype-present condition ($M = 3.32, SD = .80$) than non-Hispanic participants ($M = 2.24, SD = .73$). Furthermore, happy Hispanic participants gave numerically but not significantly higher guilt ratings for the stereotype-absent condition (i.e., non-Hispanic suspect) ($M = 3.38, SD = .71$) than
non-Hispanic participants ($M = 3.19, SD = .91$). Finally, neutral Hispanic participants gave numerically but not significantly higher guilt ratings for the stereotype-absent condition ($M = 3.34, SD = .68$) than non-Hispanic participants ($M = 3.20, SD = 1.01$).

In contrast to hypothesis 1 and hypothesis 2, the happy condition groups provided numerically but not significantly higher guilt ratings for the stereotype-absent condition (non-Hispanic suspect “John”) than the stereotype-present (Hispanic suspect “José”) condition. Table 1 shows the results of the between-subjects factorial design.
### Table 1

Table for the 2 (Mood) x 2 (Stereotype Information) x 2 (Participant Group Membership) Between-Subjects Factorial Design

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*Note. n = 203.*
Discussion

We proposed two hypotheses for this study. The first hypothesis aimed to replicate the results of Bodenhausen et al. (1994a), which showed that happy participants in the study relied more on their stereotypes than neutral participants (measured by higher mean guilt ratings of the Hispanic suspect in the vignette). The results of the study did not support the expected results, as there were no significant differences in stereotype use between participants in the happy condition and participants in the neutral condition. In addition, there was no evidence that either the happy or the neutral condition groups differed in their reliance on stereotyping, as the results showed no significant difference when participants in either mood condition were given the non-Hispanic suspect vignette (the condition that does not use stereotyping). The results are similar to a recent study (Gomez, 2017), in which replication of the Bodenhausen et al. (1994a) results were also inconclusive.

A contributing factor to the results of the analyses testing hypothesis 1 may be the recent change in political climate in which large segments of the American population attempt to cognitively distance themselves from using stereotypes or judgments based on ethnicity or race (Lentin, 2008, 2018). It may be that the effect of happiness decreasing cognitive resources and increasing stereotyping may be offset by the increase in cognitive resources used to not appear racist through the use of stereotypes in making judgments. It may also be that the cohort of participants recruited for the study represent a shift in social and political views. This shift may be based on recent events where injustices were uncovered toward members of ethnic minority groups (e.g., the George Floyd case, etc.). This exposure to injustices might have led to individuals being more wary of making stereotype judgments of members of ethnic minority groups.
The second hypothesis predicted that Hispanic participants in the happy mood and Hispanic suspect conditions would rate the suspect as more likely to have committed the crime than non-Hispanic participants in the happy mood and Hispanic suspect conditions. The second hypothesis was based on the findings of Piff et al. (2012) in which ingroup members stereotyped and were more hostile toward other ingroup members that behaved in a stereotype-congruent manner than outgroup members. The results from the data analysis did not support this hypothesis, as there was no significant difference between Hispanic and non-Hispanic participants in the happy mood and Hispanic suspect case conditions.

A possible reason for the results may be that happiness is incongruent with the negative Hispanic stereotype of aggression and violence described in the vignette. We chose the emotion of happiness for this study based on a stronger body of research that indicates that it leads to an increase in stereotype judgments (Bodenhausen et al., 1994a; Curtis, 2013; Marina, 2014). However, it may be that a more appropriate mood to induce is anger, as it has the same valence with the negative stereotype of violence and aggression. Furthermore, anger has also been shown to increase stereotype judgments with the Hispanic suspect vignette (Bodenhausen et al., 1994b), although the research is less extensive. It may be the case that inducing anger in participants will not offset the effect of increased cognitive effort they may use to distance themselves from appearing to have stereotype beliefs of ethnic minority groups as described in Lentin (2018).

Lastly, it may be that the ingroup hostility and negative judgments toward other ingroup members that behave in a stereotype-consistent manner, as described by Piff et al. (2012), led to Hispanic participants no longer experiencing the mood of “happiness”. It may be that when Hispanic participants read the vignette with stereotype-present information they felt a different
mood other than “happiness”, such as anger or disgust. The change in mood may have then affected Hispanic participant responses in the suspect guilt rating questionnaire.

**Limitations and Future Directions**

Due to the pandemic, the study had to be administered in an online manner rather than in-person as originally planned. As a result, there was less experimental control to ensure that participants were engaged in the study. Specifically, participants could participate in the study through their phone or computer, which may have introduced various external distractions and factors during their participation. This may have led to less cognitive resources being allocated to the study, thus affecting the results. Future researchers should attempt to conduct the study in an in-person format to increase experimental control.

It may be possible that by asking about demographic information at the beginning of the experiment, participants were primed to think about their own group status more so than if they were asked at the end of the study. This priming may have affected their responses to the suspect guilt rating task. The justification for the demographic questionnaire being placed at the beginning of the study also related to the limitations of having the study in an online format; there was concern that participants would not answer the demographic questions at the end of the study due to the length of the experiments. Future researchers should include the demographic questionnaire at the end of the study to prevent priming participants of their age, ethnicity, race, etc.

There were also limitations to the mood manipulation task. For instance, in a previous study (Marina, 2014), the music used to induce the mood was played in the background and did not require participants to actively play the music. In the current study, it is unknown if all participants played the music when completing the task, potentially limiting the effectiveness of the mood manipulation task. In addition, the duration of the mood induction task in Marina
(2014) was 12 minutes in length while in the current study the mood induction task was limited to five minutes to reduce potential attrition. Future research should emphasize extending the length of the writing task and ensure participants are listening to mood inducing music for the duration of the study.

The study did not include a question to determine whether participants were recruited through the upper-division social psychology undergraduate class or through the SONA system (which encompasses primarily introductory psychology students). It may be that differences between recruitment groups resulted in differences in their responses. There may also be a possibility that the course content of the social psychology class could have introduced a bias affecting the nature of their responses. In other words, there could have been a course-related effect. The question was omitted due to concerns about the length of the study in an online format. Future researchers that recruit participants from different samples should include a question that connects participant responses to each of the samples. If such a question is included, it may be noteworthy to run analyses separately for each of the groups to determine if there are any significant differences.

The Likert scale used in the study ranged from one through five. This may have influenced participants to choose the score of three on the questionnaires, as it was the midpoint for the scale. Specifically, the results from the study showed that most means for the items in the questionnaires were three and with standard deviations of less than one. By excluding the midpoint value of three, the results may have been significant since participants would have been forced to choose a number on the scale in a particular direction, showing greater differences between conditions and between groups.
Also, while the sample size was of moderate size (i.e., 203 participants), the power analysis indicated that a larger sample size was recommended (i.e., 240 participants). The recommendation was based on the three-way between-subjects design, which suggested a minimum of 30 participants per condition. In addition, there were uneven sample sizes between groups that may have resulted in unequal variances between samples. This was the result of uneven attrition among participants, as more participants that identified as Hispanic left the study before completion. Future research should include a larger sample size that has a similar number of participants for each of the conditions.

Lastly, future research should include an exit survey that asks participants to label their level of engagement during the study. An exit survey would ideally get honest responses from participants about whether they answered questions honestly, whether they read the prompts for each section of the study, and whether they followed the instructions. Participants that self-identified as not engaging in any of the mentioned behaviors could then be excluded from the statistical analysis.

Conclusion

The results of the study do not provide significant implications on whether the ingroup membership of an individual in a happy mood state will stereotype other members of an ingroup member that behave stereotypically consistent more than outgroup members. As previously discussed, future researchers should attempt to conduct the study with a larger sample size and in a manner that increases experimental control, such as in an in-person format. Furthermore, future researchers should consider a similar study but inducing anger mood rather than happiness, as it may produce different results. Future studies that incorporate these recommendations could provide insights into identifying factors that lead to ingroup hostility and negative judgments, as well as how different moods can influence these ingroup behaviors.
References


Appendix A

Mood Manipulation Instructions for Happy Group

In the following sections you will be asked to write (type) while listening to music, read important information, and answer questions about the study. Please complete the rest of the study in an area where you can focus and that is free from distractions.

Before proceeding, please press the play button below to start the music. If the song ends, please press play again.

(Note: You will have approximately 5 minutes to type below. Typing an answer is required. After the 5 minutes, you will be able to proceed to the next page)

In the first part of the study, we are investigating the relationship between music, mood, and memory. We would like you to think of a specific event in your life that made you particularly happy and to relive it for a moment. This happy event can be something that has happened in your past or in your present life. Please write (type) about this event as much as you can below and please be as descriptive as possible.

As you type your description, please try your best to experience the same positive, good feelings you had when you experienced this happy event. In other words, try to relive and feel those happy moods you felt at the time this event happened to you.
Appendix B

Mood Manipulation Instructions for Neutral Group

In the following sections you will be asked to write (type) while listening to music, read important information, and answer questions about the study. Please complete the rest of the study in an area where you can focus and that is free from distractions.

Before proceeding, please press the play button below to start the music. If the song ends, please press play again.

(Note: You will have approximately 5 minutes to type below. Typing an answer is required. After the 5 minutes, you will be able to proceed to the next page)

In the first part of the study, we are investigating the psychological effects of music on everyday memory (memory processes that routinely occur in one’s daily life). We would like you to recall and describe your normal routines on a typical day by writing (typing) below. This includes your routine activities in the morning, during the day, in the afternoon, and in the evening. Try to relive the experiences of your daily routine as much as you can and be as vivid as possible.

You can begin by using the following statement “The first thing I do in the morning is...”
Appendix C

Demographic Questionnaire

Please provide your answers to the following demographic questions.

What is your age range?

18 – 24  25 – 34  35 – 44  45 – 55  Over 55

What is your gender?

Male  Female  Non-binary/third gender  Prefer not to say

What is your ethnicity?

Hispanic or Latino?  Non-Hispanic or Latino?

What is your race?

American Indian or Alaska Native  Asian  Black or African American  Native Hawaiian or Other Pacific Islander  White  Prefer Not to Say
Appendix D

Mood Manipulation Questionnaire

How difficult was the task for you?

1 2 3 4 5 not at all difficult very difficult

What mood are you in at this time?

1 2 3 4 5 very bad very good

How happy do you feel at this time?

1 2 3 4 5 not at all happy very happy

How well were you able to concentrate during the experiment?

1 2 3 4 5 not well at all very well

How excited are you at this time?

1 2 3 4 5 not at all excited very excited

How interesting was the task to you?

1 2 3 4 5 not interesting at all very interesting

How energetic do you feel right now?

1 2 3 4 5 very negative very positive

How challenging was it for you to complete the task in the given time?
1 2 3 4 5 not challenging at all very challenging

How cheerful do you feel at this time?

1 2 3 4 5 not cheerful at all very cheerful
Appendix E

Cover Story: San José State University Peer Disciplinary Review Panel

In the second part of the study, we are investigating how college student participation in university disciplinary proceedings might work. Please read carefully.

San José State’s Office of Student Conduct and Ethical Development was founded in 1984. Its main purpose is to promote academic integrity and a safe learning environment on campus by reviewing student misconduct cases and taking appropriate disciplinary actions.

The Office of Student Conduct and Ethical Development is currently testing out a peer disciplinary review panel, which will consist of randomly selected SJSU students who will review student misconduct cases and participate in student disciplinary proceedings in exchange for extra credit. The goal is to increase awareness of the university’s student misconduct policies. The same system has been implemented with much success in several universities across the United States and Canada.

The purpose of this study is to examine how such a system might work on our campus. Your task is to take on a role of student member of the disciplinary review panel.

In the next page, you will be asked to review a previous student misconduct case from another university and make decisions based on the provided information.
Appendix F

Non-Hispanic/Hispanic Suspect Case

Case Summary (please review the details carefully)

John Garner (José Garcia), a freshman at a large western university, has been accused of assaulting his roommate, Timothy, also a freshman. The two students had reportedly had many disagreements during their first few weeks as roommates, and other dorm residents witnessed shouting and shoving between the two. A particular source of disagreement was John's (José’s) tendency to play music that Timothy found disagreeable and offensive, often at loud volumes.

On the day of the assault, they had another verbal confrontation when one of John's (José’s) favorite CD's turned up missing. After denying that he knew anything about the CD, Timothy reports that he went to study at the library with friends. Afterward, he headed straight back to his dorm room. By this time, it was after 10 pm. While approaching the dormitory, Timothy was jumped from behind and beaten into semi-consciousness. He was taken to the emergency room, but his injuries, although painful, turned out not to be serious or permanent. There were no witnesses to the attack, and Timothy never clearly saw the person who beat him. However, he says he is absolutely sure it was John Garner (José Garcia). Apparently, the attacker was not interested in robbing Timothy because his wallet was not taken.

Timothy claims John (José) was angry with him because of their frequent disagreements and, primarily, because of their dispute about the missing CD. John (José) claims he was studying at the library alone at the time of the attack. Timothy is so sure that John (José) was his attacker that he filed an official grievance with the student judiciary board.
Appendix G

Non-Hispanic/Hispanic Suspect Case Guilt Rating

How strong is the case against John Garner (José Garcia)?

Extremely weak  1  2  3  4  5  Extremely strong

In your own personal opinion, how likely is it that John Garner (José Garcia) was the attacker?

Extremely unlikely  1  2  3  4  5  Extremely likely

If you were sitting on the student judiciary board, would you recommend any disciplinary action against John Garner (José Garcia)?

definitely not  1  2  3  4  5  definitely would

If no action is taken, how likely is it that Timothy might be attacked again?

Extremely unlikely  1  2  3  4  5  Extremely likely

likely
What are your overall impressions about John Garner (José Garcia)?

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