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Illusory Correlation and Perceived Criminality

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Abstract

Illusory correlation is the false perception that a relationship exists between two variables. Previous studies have shown that people sometimes perceive a relationship between minority-group members and negative characteristics, when in fact, there is no informational basis for this perception. The current study investigates whether people readily perceive a relationship between criminality and minority groups, as is sometimes seen in society. Participants learned about the behaviors of members of two groups, arbitrarily labeled S and T. The ratio of positive:negative behaviors was the same for both groups (2:1). However, participants were shown fewer statements about Group T, making it a minority group (relative to Group S). Participants were then asked to rate the members of each group on positive and negative characteristics. Participants also rated how likely group members were to commit several different criminal offenses. Results showed that participants formed an illusory correlation between the minority group members and negativity. Specifically, participants rated the minority group as less positive and more negative than the majority group. Supporting the hypothesis, participants rated minority group members as more likely to commit criminal offenses than majority group members. This finding furthers our understanding of the origins of stigma about minorities and criminality.

Keywords: Illusory Correlation, Crime, Minorities, Stigma

Illusory Correlation and Perceived Criminality

Why does our society strongly associate crime with minority groups, especially African Americans? African Americans are incarcerated at a rate five times greater than that of Whites (Nellis, 2016). According to the 2015 National Survey on Drug Use and Health, 17 million Whites and 4 million African Americans reported having used an illicit drug within the last month, yet African Americans are charged with drug offenses six times more often than Whites (Center for Behavioral Health Statistics and Quality, 2016). A study conducted by Henry, Hastings, and Freer (1996) showed that 65 percent of respondents believed Blacks commit the most crime out of all racial and ethnic groups. How is this belief formed? One possibility is that minority groups are associated with crime because they are often linked in the media and by political leaders. But are such linkages actually necessary to produce the association? Could it be that people associate crime with a minority group merely because a group is a minority?

Racialization of crime has become the way of thinking for many White Americans in the United States. Blacks are typically stereotyped— a formation of “an often oversimplified or biased mental picture held to characterize the typical individual of a group” (Stereotype, 2018) — as violent and aggressive (Mancini, Mears, Stewart, Beaver, & Pickett, 2015). Likewise, the media generally portrays criminal suspects, specifically minorities, as violent and aggressive (Hurwitz & Peffley, 1997). Stereotypes about minorities and suspects of crime perpetuate the racialized view of crime in society. What exactly is the thought process that gives rise to stereotypes? Many cognitive researchers describe stereotypes as arising from categorizations (e.g., Hamilton, 1976; Tajfel, 1969). While humans are individuals who perform their own acts, humans tend to look for similarities and differences. Based on actual or perceived similarities,

humans tend to categorize each other, while also placing themselves in a category, which leads to a preference for one's own group based on general partiality for one's own group.

The natural instinct of categorization is developed with the help of cultural and societal factors that may lead to negative outcomes. Categorization influences social interactions as early as preschool, as preference for one's own social group emerges in infancy (Lieberman, Woodward, & Kinzler, 2017). Children innately expect members of a social group to be similar to one another in terms of the characteristics they possess and the actions they perform. Social group categorization in adulthood is dependent on observations and learned experiences as a child (Lieberman et al., 2017). For example, Morland (1962) found that White children had a negative attitude toward Black children based on subtle communication from parents, teachers, and media, rather than direct contact with Black children. Power dynamics within society, which are shaped by institutionalized oppression of minorities by Whites, lead to the construction of a hierarchy of group preferences. Historically, the United States was founded on the basis of the oppression of minorities, with both Blacks and women not being allowed to vote or own property. Whites, specifically White men, still hold the most power in society, which establishes a dominance over minority groups, creating a system of inequality. This inequality leads to the perception that minorities are inferior to those in power and that those in power are the preferred social group. This hierarchy, one that favors Whites, contributes to the formation of stereotypes by associating inferiority with minorities which leads to attributing negative characteristics to minorities. Growing up with the societal view that Whites are dominant, superior, and that they are the "norm," gives the impression that Whites are the standard against which all other groups are judged. Thus, stereotypes against minorities arise through sociocultural and environmental cues present during early childhood.

Again, societal and cultural factors can play a role in shaping perceptions of minority group members. Television and social media can influence how people are perceived. Both crime and minority group members as perpetrators of crime are overrepresented in the media (Briley, Shrum, & Wyer, 2013; Dixon & Maddox, 2005). Members of minority groups are overrepresented in the media as criminal suspects, while Whites are represented as crime victims (Ghandnoosh & Lewis, 2014). Gilliam and Iyengar (2000) found that local television newscasts are more likely to present information regarding the race of a criminal suspect than non-racial attributes, including educational background, age, and employment status. Relatedly, DeLouth and Woods (1996) showed that if the suspect was a member of a minority group, then the victim's ethnicity was more likely to be mentioned. The misrepresentation in media can influence society to perceive an association between minority group members and criminality. Although this paper does not focus on the role of the media in influencing perceptions of minorities, it is mentioned in order to understand how these views are created and upheld in society.

In their daily lives, many White people infrequently encounter minority groups, and when they do, it is in the specific context of crime because of the media's overrepresentation of minority group members as perpetrators of crime. Thus, the criminalization of minorities in the media may stand out to White viewers. Hamilton and Gifford (1976) showed how infrequent behaviors and people may receive more attention because of their distinctive nature. Cognitively, more attention is given to distinct stimuli, which can result in better encoding of information. Greater encoding of information may promote the belief that a relationship exists between distinct stimuli if both distinct stimuli are encoded at the same time. When two distinct stimuli co-occur, they will be well remembered, because strong encoding leads to good memory.

Good memory for the co-occurrence may be the basis for believing that a stable relationship exists between the stimuli. In their study, Hamilton and Gifford (1976) showed participants desirable and undesirable behavior statements about members of two groups (Group A and Group B) such as “is rarely late for work” or “always talks about himself and his problems.” The ratio of desirable:undesirable statements was the same in both groups (9:4), but there were fewer statements about one group than the other (26 statements about one group and 13 about the other). Therefore, the researchers created a minority and majority group based on the number of statements about each group. Participants were asked to rate how well positive and negative characteristics described the members of each group. Participants rated the group about which they had seen fewer statements as possessing less positive and more negative characteristics. Participants perceived the minority group (an infrequent group) as negative based on the infrequency of statements about the minority group and negative behaviors. The participants in this experiment experienced an illusory correlation: the perception that a relationship existed between variables (i.e., group membership and group quality) when in reality, no relationship existed.

Rare behaviors performed by minority members are distinctive because both attributes (the event and the group) are “rare” or “distinctive” to the perceiver. Desirable behaviors were more common in both groups in Hamilton and Gifford (1976), meaning that undesirable behaviors were infrequent in comparison. In similar research, Risen, Gilovich, and Dunning (2007) suggested that illusory correlations can arise through distinctive stimuli, rather than statistical distinctiveness. For example, the researchers argued that associations between rare behaviors and rare groups can arise with a single rare action. Unlike Hamilton and Gifford

(1976), this study found illusory correlations being formed with just one unusual behavior, rather than multiple unusual behaviors.

With the current societal views and the ongoing oppression of minority groups, it is important to understand how negative stereotypes about members of infrequently encountered groups arise. It is seen in previous literature criminals are perceived as violent, aggressive, and inferior to individuals that have not committed a crime. Both negative perceptions of minorities and criminality, along with the overrepresentations in the media of minorities as perpetrators of crime, may lead to a false association of minorities and criminality. The present experiment replicated Hamilton and Gifford's (1976) illusory correlation study by showing participants desirable and undesirable statements and asking participants to rate how well positive and negative characteristics describe the members of each group. It was hypothesized that participants would experience an illusory correlation, perceiving a relationship between negative characteristics and the minority group, as in Hamilton and Gifford's research. Based on the above literature review, it was hypothesized that participants would rate the minority group as being more likely to commit criminal offenses because of participants' negative perceptions of the minority group. It was expected that participants will perceive a relationship between minority groups and criminality, as seen in society.

Methods

Participants

Participants ($N = 124$) were University of Louisville undergraduates recruited from psychology courses using the SONA research management system. Participants were randomly assigned to one of three counterbalancing versions (see the **Materials and Procedure** section for details). Because the number of participants assigned to each version was initially not equal, seven randomly selected participants were dropped to achieve perfect counterbalancing ($n = 38$

per version). In addition, three participants who did not respond to all measures were excluded. Participants received psychology class credit through SONA for their participation.

Materials and Procedure

The first part of the procedure was a recreation of the original Hamilton and Gifford (1976) procedure. Participants were shown 36 behavior statements in random order at a rate of six seconds per statement. Statements were English-language translations of stimuli originally developed by Klauer and Meiser (2000). Each statement consisted of male name and a description of that person's behavior (e.g., "Patrick behaves in a trustworthy way towards others"). Some behaviors were desirable/positive ("is loyal to friends") and some were undesirable/negative ("forgets promises or does not keep them"). Twenty-four behaviors were associated with a group labeled S and 12 behaviors were associated with a group labeled T. Association was created by inserting the words "a member of Group S/T" after the male name. The group labels were changed to "S" and "T" from "A" and "B" in Hamilton and Gifford to avoid any preference for the letter "A". Desirable and undesirable behaviors were associated with each group at a 2:1 ratio. Association of behavior with group was counterbalanced, causing there to be three versions of the list of the statements. Participants were randomly assigned to receive one of the three counterbalancing versions.

After the presentation of behavior statements, participants were given a five-minute break. Participants were asked to respond to three randomly ordered sets of questions. In one set, participants were told that they had been shown 24 statements about Group S and they were asked to state how many of those statements were negative. Similarly, participants were told that they had been shown 12 statements about Group T and they were asked to state how many of those statements were negative. In another set of questions, participants were asked to rate how

well eight adjectives described the members of each of the groups (e.g., intelligent, happy, lazy) using a 1-to-7 rating scale (*strongly disagree* to *strongly agree*). In a final set of questions, participants were asked to rate the likelihood of the members of each group committing four street crimes (armed robbery, assault and battery, burglary, and murder) and four white collar crimes (money counterfeiting, bribery, blackmail, and computer hacking) using a 1-to-7 rating scale (*very unlikely* to *very likely*). It is possible that the minority group be associated only with the crimes that are typically perceived as “street crimes,” (e.g., murder, assault and battery, burglary, armed robbery). There is another possibility that the majority group may only be associated with crimes that are perceived as “more intelligent,” (e.g., money counterfeiting, blackmail, bribery, computer hacking). These hypotheses stem from participants perceiving the minority as being less intelligent and intellectual as found in Hamilton and Gifford (1976).

Results

The formation of an illusory correlation in this experiment was apparent when examining positive and negative characteristic ratings, as well as the proportion of negative statements attributed to Groups S and T. Participants’ mean ratings for positive characteristics were analyzed via a paired t test with group as the independent variable. As shown in Figure 1, participants rated the majority group ($M = 4.61$) as more positive than the minority group ($M = 4.25$) and this difference was significant, $t(113) = 2.396, p = .018$. Mean ratings for negative characteristics were analyzed similarly. Participants rated the majority group ($M = 3.35$) as less negative than the minority group ($M = 3.88$) and this difference was significant, $t(113) = -2.523, p = .013$. Numerical estimations of negative statements for both Group S ($M = .4433$) and Group T ($M = .5175$) were converted into proportions (see Figure 2). Proportions were analyzed via a paired t test with group as the independent variable. Participants attributed significantly

more negative statements to the minority group than the majority group, $t(113) = -3.440, p = .001$. Criminality ratings were analyzed using a 2 (group: majority or minority) X 2 (crime type: street or white collar) within-subjects ANOVA. There was a relatively uninteresting effect of crime type whereby group members were deemed more likely to commit white-collar crimes ($M = 3.753$) than street crimes ($M = 3.002$), $F(1,113) = 88.206, p < .001$ (see Figure 3). More important, the main effect of group was significant, $F(1,113) = 5.363, p = .022$. Participants perceived minority group members as more likely to commit crimes ($M = 3.561$) than majority group members ($M = 3.194$). The interaction was not significant, $F(1, 113) = 1.876, p = .162$, indicating that participants deemed minority group members more likely to commit both street and white collar crimes.

Discussion

The results of the experiment supported the hypothesis. Participants exhibited an illusory correlation by perceiving a relationship between group membership and criminality. Members of the minority group were rated as more likely to commit crimes than the majority group. This association between group membership and criminality may have formed due to participants' negative perception of the minority group. The minority group was perceived as more negative than the majority according to the characteristic ratings. In addition, participants attributed more negative behavior statements (proportionally) to the minority group than the majority group (even though the ratio of positive:negative behavior statements was equal for the two groups). Based on the adjective ratings and statement attributions, participants believed that the minority group differed from the majority group. Specifically, the minority group was considered to be more negative and more undesirable than the majority group. The perceived difference between

groups and the negative perception of the minority group may have led to participants to believe that minority-group members were more likely to commit crimes than majority-group members.

The current study was not designed to determine how or when illusory correlations form. This experiment showed that illusory correlations do arise without the presentation of any information that would suggest a difference between groups. Participants perceived a difference without factual basis. Based on previous research, it is likely that illusory correlations form through perceiving two distinct and co-occurring stimuli (e.g., Hamilton, 1976; Hamilton & Gifford, 1976; Risen, Gilovich, Dunning, 2007). In this experiment, participants overestimated the frequency with which negative behavior statements and minority group members co-occurred. The co-occurrence of infrequent and distinct stimuli draws the attention of the participants, leading them to perceive that the two stimuli “go together.” This leads to illusory correlation formation, as shown in Hamilton and Gifford (1976).

In an extensive literature review, Stroessner and Plaks (2001) concluded that illusory correlations and biases disappear in participants who engage in more involved thought and deliberative processing during the encoding—or learning—of information. Cognitively, attention is greater when introduced to an unfamiliar or unusual stimulus, thus, perceivers should attend to unfamiliar and unusual items more than familiar items. Yet, greater attention to an unfamiliar stimulus may not cause more thorough processing. Illusory correlations present possible issues in society by forming unconsciously (without us knowing or thinking about what we are perceiving). However, these unconscious developments may reinforce conscious stereotypes (e.g., participants having a biased and negative characterization of the minority group).

More research is needed to determine the exact cause and moments that form illusory correlations. A future study could try to determine the precise moment that participants’

negative perceptions of minorities come into fruition with continuous characteristic ratings after the presentation of each behavior statement.

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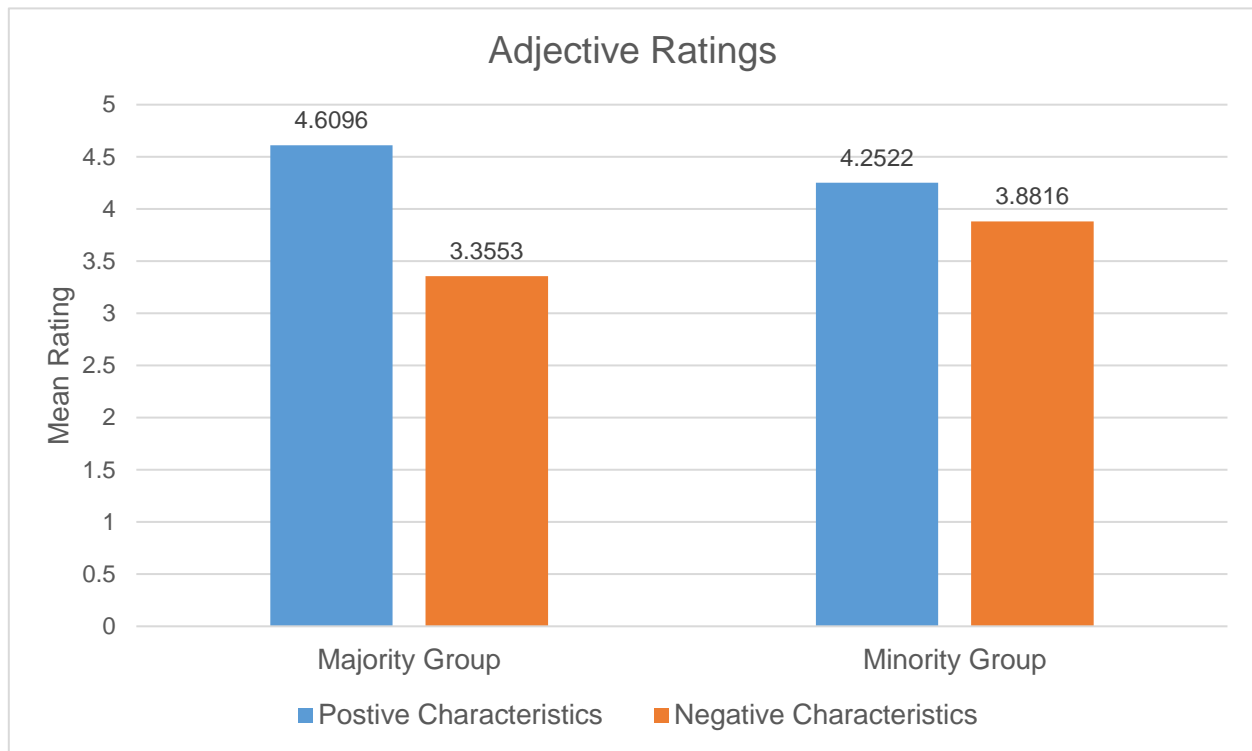


Figure 1. Participants' mean positive and negative adjective ratings for the majority group and the minority group.

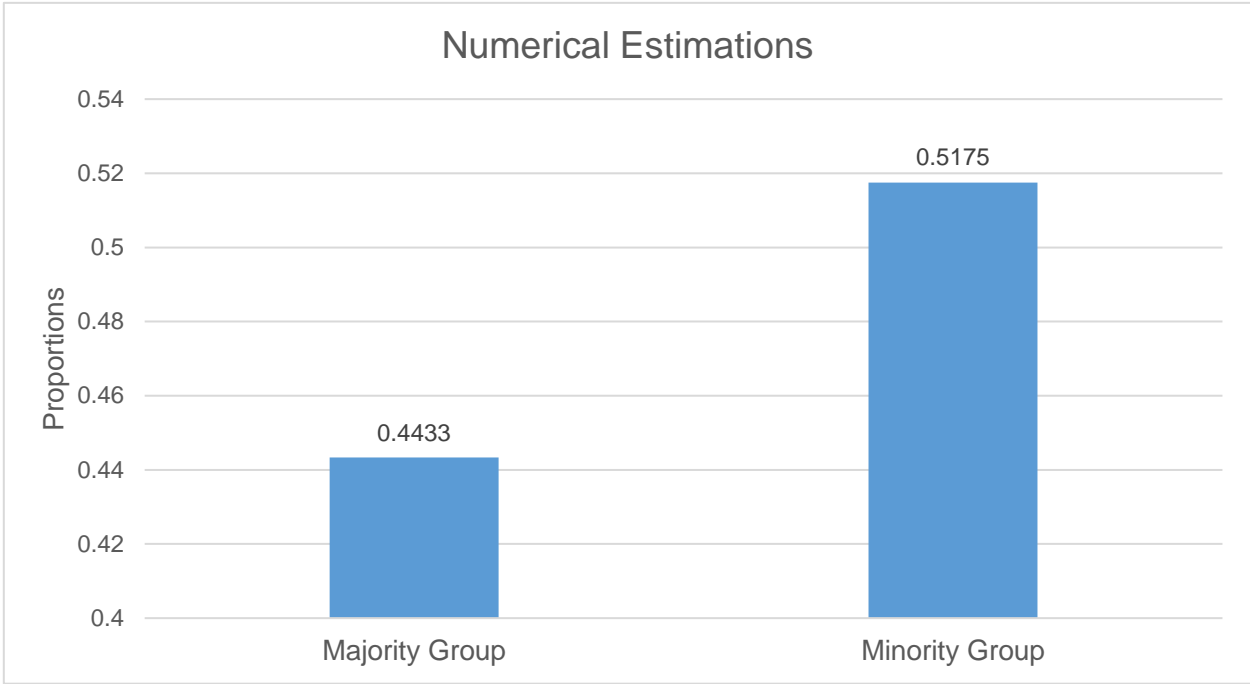


Figure 2. Participants' numerical estimations of negative behavior statements attributed for the majority group and the minority group.

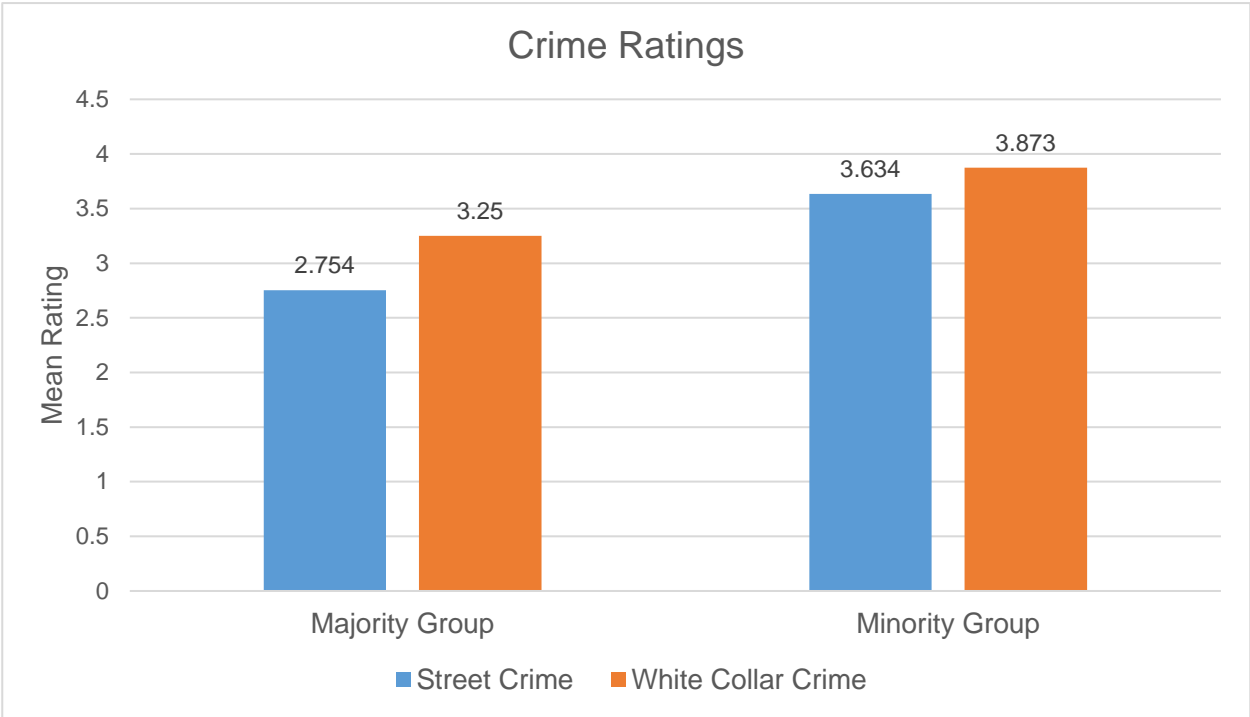


Figure 3. Participants' mean ratings for street crimes and white collar crimes for the majority group and the minority group.