# Chapter 34

# THE INFLUENCE OF STEREOTYPES ON EYEWITNESS RECALL OF PERCEIVED STEREOTYPICALITY

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**ABSTRACT**

The present research investigates whether victim characteristics can exacerbate the effect of crime-type on eyewitness recall of perceived stereotypicality. To isolate the influence of victim characteristics, 43 participants watched a video of a Black male drive-by shooter (i.e., stereotypically Black crime) differing only in the alleged victims of the crime. Participants then identified the perpetrator using a software program that morphs the perpetrator's face through 100 frames of stereotypicality (low to high). As predicted, participants who watched a drive-by shooter whose victims were Black, accurately remembered the perpetrator's level of perceived stereotypicality ($M = 48.50$); whereas, those participants who watched a drive-by shooter whose victims were White, falsely remembered the perpetrator as looking more stereotypically Black ($M = 67.30$) than he is in reality, $F(1,41) = 8.44$, $p < .01$, partial eta-squared = .17. In short, there is a discernable pattern to eyewitness misidentifications. It is only after we understand both (a) when errors in eyewitness identification will occur and, (b) who will be mistakenly identified that we can begin to take proactive measures to ensure these biases do not translate into wrongful convictions.

*Keywords:* eyewitness memory, false convictions, stereotypes.

## 1. INTRODUCTION

The Innocence Project, an organization that provides statistics on DNA exonerations and often initiates the exoneration process, reports that there have been 317 post-conviction DNA exonerations in the United States since 1989 (2014). On average, exonerees spent 13.5 years in prison, and 18 people were sentenced to death before DNA testing proved their innocence. In total, exonerees spent 4,249 years in prison, and only 65% of these individuals were financially compensated for their wrongful conviction. Related to the current study, approximately 70% of the 317 exonerees were from minority groups, and an overwhelming proportion (63%) of those individuals self-identified as Black. Further, eyewitness identification errors are cited as the cause in 73% of the wrongful convictions overturned by DNA evidence, and at least 40% of these cases involved cross-race identifications (Innocence Project, 2014). These statistics tell a troubling story of how errors in the criminal justice system can occur, and speak to need for research in this area. The goal of the present research is to identify when errors are likely to occur, and who is likely to fall victim to these errors.

The concept of perceived stereotypicality is central to the present line of research. Perceived stereotypicality is the degree to which an individual is perceived to possess physical features that are believed to be representative of a given racial group. In terms of race, perceived Black stereotypicality is the degree to which a person is viewed to be physically representative of the Black racial group. For example, an individual high on perceived Black stereotypicality may have a darker skin tone, broader nose, and thicker lips than someone low on perceived Black stereotypicality (Blair, Judd, & Chapleau, 2004; Blair, Judd, & Fallman, 2004; Blair, Judd, Sadler, & Jenkins, 2002; Livingston & Brewer, 2002; Maddox & Gray, 2002).

Research suggests that there is a relationship between what a person looks like, and what crime they are perceived to commit (Bull & Green, 1980; Goldstein, Chance, & Gilbert, 1984; Gordon, Michels, & Nelson, 1996; Jones & Kaplan, 2003; MacLin & Herrera, 2006; Shoemaker, South, & Lowe, 1973; Sunnafrank & Fontes, 1983). In the case of perceived Black

stereotypicality, features that are characteristic of high perceived Black stereotypicality (e.g., dark skin tone, broad nose, thick lips) are thought to impact the observer's memory of the individual more so than those characteristics of low perceived Black stereotypicality. Indeed, Corneille, Huart, Becquart, and Bredart (2004) found that the presence of strong ethic features contributed to the distortion in participant memory for facial characteristics. It is hypothesized that this is because expectations about what type of person commits what type of crime can influence the image individuals retrieve when having to make their identification (Araya, Ekehammer, & Akrami, 2003; Lenton, Blair, & Hastie, 2001; Sherman, Groom, Ehrenberg, & Klauer, 2003). In this way, memories are encoded in a stereotype-consistent way (Martin & Halverson, 1981; Pendry & Macrae, 1999), and they become reconstructions rather than reproductions of real-world events (Osborne & Davies, 2013).

Osborne and Davies (2013) conducted a series of studies comparing different crimes in terms of their seriousness, violence, and associated race. The results of these studies concluded that crimes such as "drive-by shooting", "carjacking", and "street gambling" were found to be highly stereotypical Black crimes, while "hate crime", "embezzlement", and "serial killing" were found to be highly stereotypical White crimes. From these analyses, the researchers were then able to reanalyze the two groups of crimes to identify a pair of crimes that were similar in terms of seriousness and violence, but differed significantly in terms of race. The results of these analyses concluded that while matched on seriousness and violence, drive-by shooting was rated a highly stereotypical Black crime, while serial killing was rated a highly stereotypical White crime. The researchers used these two crimes for a series of studies, which found that participants who were exposed to a stereotypically Black crime (i.e., drive-by shooting) recalled the perpetrator to be higher on perceived Black stereotypicality than the same perpetrator of a stereotypically White crime (i.e., serial-killing). This work has laid the foundation for explaining both when eyewitness identification errors are likely to occur and who is likely to be a victim of those errors.

## 2. BACKGROUND

The current research expands on the work of Osborne and Davies (2013) to examine if victim characteristics exacerbate the effects of crime-types on eyewitness recall of a suspect's perceived Black stereotypicality. Research suggests that victim characteristics play a large role in the criminal justice system especially with regards to sentencing (Glaeser & Sacerdote, 2003). In terms of race, research by Glaeser and Sacerdote (2003) has shown that Black individuals convicted of murder receive shorter sentences if the victim is Black than if the victim is White. Not all Black individuals convicted of murdering White individuals are treated the same, however. Eberhardt, Davies, Purdie-Vaughns, and Johnson (2006) found that the more stereotypically Black the defendant was perceived to be, the more likely that person was to be sentenced to death (i.e., 57.5% of high stereotypical Black males were sentenced to death vs. 24.4% of low stereotypical Black males). This research found that the perceived Black stereotypicality of the defendant influenced the likelihood of a death sentence but only when the victims were White. In other words, the perceived Black stereotypicality of the defendant did not significantly predict the likelihood of perpetrators receiving the death sentence when targeting Black victims. The researchers note that the race-salience hypothesis may help to explain this discrepancy (Eberhardt et al., 2006). According to this hypothesis, the interracial nature of crimes involving Black defendants and White victims brings the issue of race to the forefront. In crimes involving Black defendants and Black victims, however, the issue of race is not as salient. Individuals are more inclined to attribute the crime to conflict within individuals rather than conflict between groups (Prentice & Miller, 1999). The way in which individuals attribute race conflict (i.e., interpersonal vs. intergroup) is examined in this current research.

Osborne and Davies (2013) have established that participants who are exposed to a surveillance video of a suspect of a highly stereotypical Black crime (i.e., drive-by shooting) recall the target as higher in perceived Black stereotypicality than participants who are exposed to the same suspect of a highly stereotypical White crime (i.e., serial killing). Prior research

(Eberhardt et al., 2006) has also established that perceived Black stereotypicality becomes a critical factor in sentencing when race becomes salient; that is, when a Black male kills a White male. As mentioned earlier, eyewitness errors account for a large percentage of wrongful convictions (Innocence Project, 2014). Investigating the effects of victim characteristics in conjunction with crime-types on eyewitness accuracy will help to identify how these errors occur, while also paving the way for procedures that help prevent them from occurring in the future.

## 3. OBJECTIVES

The goal of this research was to examine the possibility that victim characteristics exacerbate the effects of crime-types on eyewitness recall of perceived Black stereotypicality. It is hypothesized that participants who are exposed to a surveillance video of a drive-by shooter (i.e., a stereotypically Black crime) whose purported victims are White would remember the perpetrator as being higher on perceived Black stereotypicality than participants who watched the same surveillance video but of a perpetrator whose purported victims were Black.

## 4. DESIGN

This study was a between-participants design in which all participants were exposed to the video of the stereotypically Black crime (i.e., drive-by shooting) prior to being randomly assigned to the Race of Victims condition (i.e., Black victims or White victims). The dependent variable in this study was the participants' memory of the perpetrator's perceived stereotypicality on a scale of 0-100 with a score of "0" representing the lowest level of perceived stereotypicality, and a score of "100" representing the highest level of perceived stereotypicality.

## 5. METHODS

Undergraduate students were recruited for this online study via the SONA Online Recruitment System at the University of British Columbia (Okanagan Campus). A total of 43 students were recruited in exchange for 0.5 course credit. The sample of undergraduate students consisted of 29 women and 14 men. Thirty-two participants self-identified as White, five as Asian, two as Black, one as Latino/Latina, and three as "Other". Participants ranged in age from 17 to 36 ($M = 19.44$, $SD = 2.897$). In order for their data to be included in the analyses, the participants had to pass a series of manipulation checks. These manipulation checks were designed to confirm if participants were paying attention to the study, by asking questions related to information that was provided to participants multiple times at the beginning of the study (i.e., if the perpetrator committed a crime, what crime the perpetrator was suspected of committing, if there were victims of the crime, the demographics of the victims, if the perpetrator in the identification video was present at the beginning of the study, and what colour sweatshirt the perpetrator was wearing). Unfortunately, the limited number of participants did not allow us to accurately test participant effects of age, gender, or race. As such, those participant factors will not be discussed further. For this study, the participant pool was collapsed across age, gender, and race, and participants were randomly assigned to one of two conditions: Black victims or White victims. That being said, we hope to further test these participant variables with subsequent research.

After consenting to participate in this online study, all participants were told that they were about to watch a surveillance video of a perpetrator leaving a building. The surveillance video showed a moderately stereotypical Black male exiting an ambiguous building carrying nothing in his hands (see Osborne & Davies, 2013). All participants in this study were led to believe that the perpetrator leaving the building was suspected of committing a highly stereotypic Black crime (i.e., drive-by shooting). To illustrate, participants were told: "You are about to see a short (about 15 seconds) surveillance video of a suspected drive-by shooter

leaving a building". After watching the surveillance video, participants were shown the purported victims of the drive-by shooting. Depending on their randomly assigned condition, those purported victims were either all Black or all White.

After viewing the victim photographs, participants were asked to read an unrelated article on visual processing for 10 minutes. This article, *How Photons Start Vision* by Denis Baylor (1996), served as a cognitive distractor task to conservatively replicate real-world eyewitness identification circumstances (i.e., memory impairment caused by the duration of time between witnessing the event and subsequent recall for the event). Participants were told that this article on the visual system would help them understand how visual information is processed in the brain, and that it would increase their performance on the latter parts of the study. To avoid instilling feelings of stress or anxiety, at the end of the 10 minutes, participants were informed that it was not necessary to have finished reading the entire article, as most people are not able to finish reading the article in the allotted time.

After reading the article, participants were asked to identify the perpetrator that they saw in the surveillance video at the beginning of the study. Participants were shown a video, created using FantaMorph version 4.0 (Abrosoft, 2007) that transitions between faces. The morphing video goes through 100 frames of stereotypicality in 10 seconds, and participants were asked to stop the morph at the exact moment when the face matched their memory of the perpetrator they were exposed to in the surveillance video at the beginning of the study. The first frame of the morph represents the lowest level of perceived Black stereotypicality, whereas the 100th frame of the morph represents the highest level of perceived Black stereotypicality. In reality, the perpetrator's level of perceived Black stereotypicality is exactly the midpoint of the morph; that is, the 50th frame. Previous studies determined that the direction of the stereotypicality in the video (i.e., low-high vs. high-low) was not significant. Therefore, the direction of low to high stereotypicality was arbitrarily selected. For further discussion of these issues please see Osborne and Davies (2013). The morphing software records the exact frame at which the participant chooses to stop the morph, which allows for a rating of 0 (low perceived Black stereotypicality) to 100 (high perceived Black stereotypicality) to be determined. The frame at which the video is stopped serves as our dependent measure (i.e., 0-100). To ensure that participants were familiar with the morphing software before having to make their judgments, a practice trial was given prior to the actual perpetrator identification task.

Following the identification task, participants were asked a series of questions to ascertain the level of confidence in their identification of the perpetrator's level of perceived stereotypicality. Participants were also asked a series of questions to confirm that they were paying attention during the study and did not experience any difficulties with the program or the study itself. These manipulation checks were used to identify potential sources of error in the data and to confirm that the study was accessible across multiple computer types and various web browsers. Participant demographics were then collected, including age, gender, and ethnicity. Participants were then thanked for their participation and fully debriefed.

## 6. RESULTS

The results of our study supported our hypothesis that those participants who were exposed to the surveillance video of a suspected drive-by shooter whose victims were White recalled the perpetrator as higher on perceived Black stereotypicality than those participants who were led to believe that the drive-by shooter's victims were Black. Specifically, participants who believed the victims were White rated the perpetrator's level of perceived stereotypicality to be 67.30, whereas those who believed the victims were Black rated the perpetrator's level of perceived stereotypicality to be 48.50, $F(1, 41) = 8.44$, $p < .01$, partial eta-squared = .17 (see Figure 1).
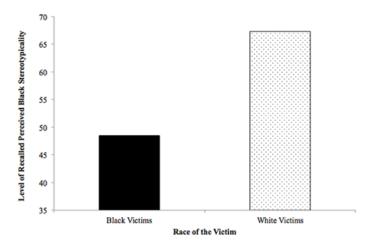
*Figure 1. Mean results of the effect of crime-types and race of the victim on eyewitness recall.*



## 7. FUTURE RESEARCH DIRECTIONS

As discussed, the results of our study supported our hypothesis with regards to eyewitness recall of perceived stereotypicality. Specifically, those participants who were exposed to the surveillance video of a suspected drive-by shooter whose victims were White recalled the perpetrator as higher on perceived Black stereotypicality as compared to those participants whose victims were Black. As acknowledged in the Methods, the limited sample size in this study prevented the examination of participant characteristics such as age, race, and gender. Future research in this paradigm will involve the exploration of these victim characteristics, and specifically, those of gender and age.

With respect to gender, male perpetrators' sentences tend to be longer for female victims than for male victims (Curry, Lee, & Rodriguez, 2004; Franklin & Fearne, 2008). Specifically, Curry et al., (2004) studied samples of offenders convicted of various violent crimes (e.g., homicide, assault, sexual assault, robbery), and found that those male offenders who targeted females received longer sentences than female offenders who targeted males. Further, research by Curry (2010) found that violent offenders who targeted Hispanic and/or White females, but not Black females, received 30% longer sentences.

With respect to age, surprisingly little research has been done to establish the differences in sentencing for crimes involving child victims versus adult victims. Kleinfield (2012) discussed how criminal law has perpetuated the belief that it is worse to commit a crime against a child or an elderly individual, rather than commit the same crime against an adult. Furthermore, the work of Garvey (1998) examined aggravating and mitigating factors present in 41 capital murder cases in South Carolina. He interviewed the jurors involved in all of these cases, and found that the majority endorsed the death penalty in cases where the victim was a child. Admittedly, research in this specific area is limited, and the goal of future research should be to determine if differences exist in terms of eyewitness recall of perceived stereotypicality across gender of target, and for child victims versus adult victims.

Another avenue of exploration for the current research could involve the incorporation of Terror Management Theory (TMT). Put simply, TMT is a theory that addresses the paradox of an individual's "biological inclination toward self-preservation" and the reality that life is finite, and we can cease to exist at any given time (Solomon, Greenberg, & Pyszcynski, 2004, p. 17). The "terror" that is created within us from this realization is managed through the development and maintenance of cultural worldviews. As Solomon et al., (2004) discuss, culture worldviews are beliefs about the world that help individuals find internal meaning and value. In terms of criminality, work by Greenberg, Solomon, and Ardnt (2008) suggest that TMT may provide a way of understanding how legal decision-making is influenced by external psychological factors. Specifically, cultural violations such as crime may threaten an

individual's worldview, and that may cause an increase in punitive attitudes. Support for this notion can be seen in the work of Bradley and Kennison (2012) who found that reminding individuals of their own death (i.e., mortality salience) caused participants to preform worse on a weapon bias task (see Payne, 2001), and these errors were worse for conditions involving Black versus White faces. Incorporating TMT will help to increase the mundane realism of our work as reminding individuals of their own death (i.e., mortality salience) is a very real process for individuals, and is relatable outside of a laboratory setting. Our eyewitness identification research is applicable in law and criminal justice settings. Combining the mundane realism of TMT with the real-world applicability of eyewitness identifications will help to further address the issues of intergroup bias and prejudice.

The findings of this study are the first of its kind to highlight the effect of victim characteristics, in conjunction with crime-types, on the accuracy of eyewitness recall of perceived stereotypicality. This work lays the foundation for future work examining the influence of other victim characteristics such as age on the accuracy of eyewitness identifications. As discussed, work by Kleinfield (2012) has shown that our criminal justice system perpetuates the belief that it is more heinous to commit a crime against a child than against an adult. As a consequence, our future research will examine the interaction between victim's age and crime-type on the accuracy of eyewitness recall of perceived stereotypicality. We are also interested in exploring whether witness characteristics can also interact with crime-types to influence the accuracy of eyewitness recall of perceived stereotypicality. For example, it has been well established that people are particularly inept at cross-race identifications, which is an effect known as the cross-race identification bias (Malpass & Kravitz, 1969). This leads us to question whether these errors in memory for perceived stereotypicality will only hold for non-Blacks witnessing Black suspects. Our research up to this point has not involved enough Black subjects to determine whether this phenomenon would also be shown among Black participants recalling the perceived stereotypicality of Black perpetrators. Future research will examine this issue in greater detail through increased diversity in our recruited samples.

## 8. CONCLUSION/DISCUSSION

Our research has demonstrated that crime-types and the race of the victim can influence the level of eyewitness recall of perceived stereotypicality. By conducting further research on these issues, judges, lawyers, and jurors will become aware of how certain crimes become associated with certain races, and how these associations impact their perceptions of those accused. The goal of future research will be to identify not only when errors in judgment, especially in terms of race and crime, are likely to occur, but also who is likely to fall victim to those errors, and what safeguards need to be put in place to protect those individuals from being wrongfully accused. Fully understanding the factors that influence eyewitness memory and identification accuracy is a critical step in enabling us to create and implement procedures designed to reduce the tragic errors that can occur during the identification process.

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