

# Colorism and the killing of unarmed African Americans by police

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## SUMMARY

The purpose of this study was to investigate the relationship between colorism and police killings of unarmed African American suspects. Previous research has investigated police violence and colorism in arrests and found that darker toned African Americans are at a higher risk of police killing. We had three hypotheses: (1) The darker an unarmed victim's skin is, the more likely they are to be killed by police compared to the skin tones of African Americans in general, (2) the effect of colorism is greater in men than in women and (3) the officers' race does not contribute to the proportion of dark skinned African American victims that are killed. Data was collected from the Washington Post database, which reports unarmed African American victims from 2015–2021. We found that the victims who were killed by police were darker on average than a control population of African Americans that had not encountered the police. This supports our hypothesis that the darker a victim is the more likely they are to be killed. Our hypothesis that men will face more colorism than women was not supported as results were inconclusive because there were only a few women victims to compare. Our last hypothesis that the officers' race does not have an effect on the skin tone of victims was supported because white and black officers both preferentially killed victims with darker skin tones.

## INTRODUCTION

The rate at which African Americans are killed by police is more than twice as high as that for white Americans: 33 per million versus 13 per million. Police have killed 1,353 African Americans and 2,601 white Americans since 2015 (1). The current study analyzed the skin tone of unarmed African Americans killed by the police since 2015. Black people are more likely to be killed by police than whites, but what is missing in available statistics are the differences in how people within the black community who have police encounters are treated. To truly make positive change, it is important to understand who in the black community is being killed, so the necessary improvements can be made.

Two concepts that are important in the discussion of skin tone and police violence are Critical Race Theory (CRT) and colorism. CRT is the argument that the criminal justice system (among other things) is inherently racist; it is the idea that because people benefit from a system that is racially biased, individuals who participate in society help that system continue, furthering inequality and continuing the cycle of

oppression (2). Colorism is discrimination against people of color based solely on their skin tone and other phenotypes such as hair or eyes; colorism usually benefits lighter skin tones (2). Combining both ideas, darker skinned Americans may be in more danger when interacting with police due to discrimination based on colorism and racism.

There are negative perceptions of African Americans in the criminal justice system (3). In one study, researchers conducted a race stratified telephone survey asking if participants thought blacks and whites would be treated the same if they were stopped by the police, jailed, or sentenced to death (3). The interviewers worded questions to see who black respondents thought would be more likely to discriminate against them. They found that African Americans were far more likely to perceive racial injustice in the criminal justice system compared to whites. Conservatives were less likely to perceive racial injustice. Nearly all of the white respondents shared the same view on racial injustice while the black respondents' perceptions varied depending on personal characteristics. This study showed that many whites do not notice discrimination in the criminal justice system, while generally, nearly all black people do. Due to white people's perceptions, a white officer may not recognize that their actions may be discriminatory, even though they are engaging in discrimination.

A similar study interviewed white college students and a group of white police officers on their perceptions of potential criminals (4). They showed the study participants photos and had them point out an object they saw in the blurred photos. Throughout all the studies, the researchers found that the participants sensed criminality more readily in the pictures with black people as opposed to pictures that showed white people. This suggests that many white people criminalize black people implicitly, and because black people tend to be seen as criminals, police officers may be more likely to use force in their interactions with them.

A previous study reviewed the difference in arrest rates based on skin color between siblings; the researchers interviewed brothers and had them document their relationships between skin color and being arrested, then did the experiment again years later (5). They found that being dark skinned made people more likely to be labeled delinquent and that this label made them more likely to be arrested as an adult. When controlling for delinquency, being dark also increased the likelihood that a person would be arrested. For every shade darker (on a 1-5 scale), a black person is 3.8% more likely to be arrested, ignoring all other factors. These findings suggest that the darker a person's skin, the more likely they are to interact with police, and this could increase the chances for violence.

Another study reviewed situations where policemen killed black people and argued that Critical Race Theory explains these outcomes (6). Critical Race Theorists argue that the criminal justice system is inherently racist due to unequal power and decades of discrimination. No individual officer or suspect is really the point: rather, there is an overall pattern in which officers are not held accountable, so the system continues to reinforce white supremacy and victimize black people (6). In another study, the odds of being killed by police were sorted by race, gender, the state of being unarmed/armed, and the neighborhood people live in (7). They found that black males were most likely to be killed by police. Also, black Americans who are unarmed are 6.6 times more likely to be killed by police than unarmed whites.

Only one previous study has looked at skin tone and the killing of unarmed black men by police (2). Two researchers sorted participants on a skin tone spectrum and compared results. Then, they examined which skin tones put people at greatest risk of being killed among a sample of unarmed black victims who were killed by police violence. Victims' skin tones were identified on a scale from 1 to 9, with 1 being the lightest. Of the 68 victims in this study, 59% had a skin tone labeled 6 or darker. They also found that males ages 18-28 and city dwellers were most likely to be killed. However, the researchers did not make a comparison to any other group of African Americans. We recreated this experiment, to see if we find the same results based on our ratings of skin tone and the new updated cases of police killings.

Overall, the available research argues that the criminal justice system is racially biased and colorist (2). Generally, lighter-skinned black and white Americans benefit from the current system because they are less likely to be arrested, and less likely to be killed by police (2, 5). Research on colorism and police killings is limited. The only available study includes statistics for years up to 2015, and in this study, black victims were rated by two researchers who did not choose to use a control group. Therefore, the current study is important because it provides an additional perspective on the skin tone of victims, with the goal of building upon existing research. We examined police killings of black people from 2015 to 2021, located photos of victims, rated their skin tones, and determined if the proportion of darker skinned victims is higher than the proportion of light-skinned victims, and if the average skin tone of African American victims is darker than the average skin tone of a separate control group of African Americans.

We hypothesized that the darker an unarmed victim's skin is, the more likely they are to be killed by police compared to the skin tones of African Americans in general. This is consistent with other research on colorism and police killings (2). We also hypothesized that the effect of colorism will be larger for men than women. This is because other studies have found black men are more likely to be killed by police than black women (4,7). Finally, we expected there to be no effect by the officers' race on the proportion of dark-skinned black Americans killed. We expected this because CRT argues that the system itself is biased, and police of all races are likely biased against black men (6).

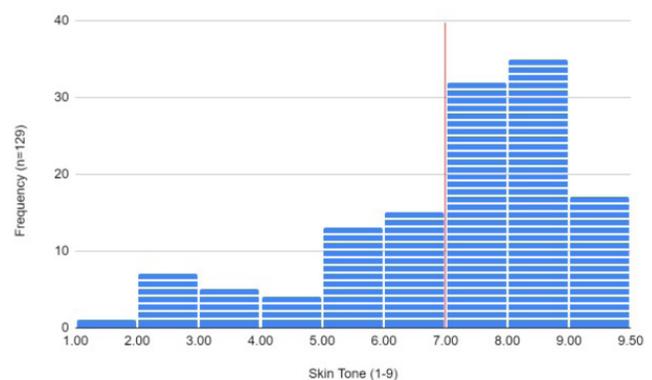
## RESULTS

In order to determine if darker skinned African Americans are more likely to be killed by the police compared to a

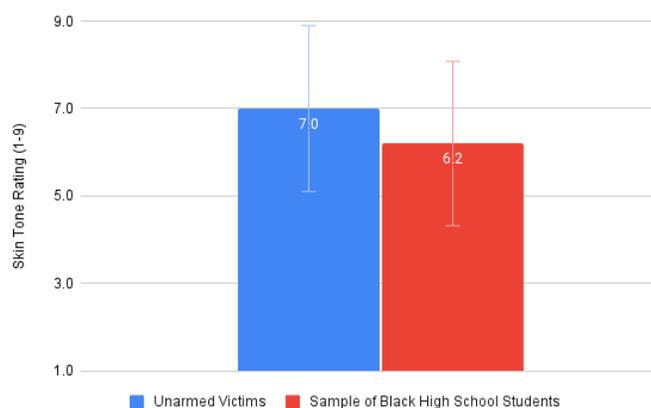
sample of African Americans who have not had violent police interactions, the primary researcher, contributing researcher, and another student volunteer rated victims' skin tones using the Physical Characteristics Satisfaction Scale (PCSS) (2). Details about unarmed black victims who were killed by police from 2015-2021 were collected from the Washington Post database (1). The primary researcher and contributing researcher rated a random sample of high school students' headshots using the PCSS so that we could compare another black population to the black victims. The intraclass correlation for the three raters of police victims was 0.88 ( $\eta^2 = 0.92$ ,  $p < 0.0001$ ), while the intraclass correlation for the two raters of the sample of students was 0.93 ( $\eta^2 = 0.96$ ,  $p < 0.0001$ ). These numbers suggest a high degree of agreement between raters. We expected to find that unarmed darker skinned African Americans in general, and males specifically, are more likely to be killed by the police.

We found that the frequency distribution of deaths of unarmed African Americans is left-skewed, with most of the unarmed African Americans being killed by police having skin tones rated 7-9 (Figure 1). There was a total of 129 unarmed victims, as one was excluded because we could not find a picture. Six percent of the victims were women, and 94% of the victims were men. Sixty-six percent of the police officers were white, 22% of the police officers' races were unknown, 2% were Hispanic, 8% were black, 1% were Asian, and 1% of shootings involved both black and white officers. The average age of the victims was 32.3 years.

To compare the previous police victims to a control group, we collected 262 yearbook photos and assigned ratings to skin tones as described above. We expected that darker skin tone would correlate with likelihood of being killed. We averaged both sets of skin tone ratings. All available photos were included, except for four students because they self-identified as white in school records. The sample was 44% male and included students grades 6-12. An independent t-test found a significant difference in skin tone between unarmed victims of police and a representative sample of



**Figure 1: Frequency Distribution of Deaths.** The distribution of skin tones of 129 unarmed African Americans killed by police as measured by the Physical Characteristics Satisfaction Scale are displayed. The higher numbers in the x axis represent darker skin toned African Americans. The cases of specific victims of police violence were retrieved from a Washington Post database, years 2015-2021 (1). The vertical red line indicates the mean skin tone rating (7.0).



**Figure 2: Average Skin Tone.** The average skin tones of unarmed victims (n=129) and a sample of black high school students (n=262) are displayed. The average skin tone of unarmed victims and the average skin tone of the sample of black high school students is compared. Error bars represent standard deviations.

African American students ( $t(385) = 3.65, p = 0.0001$ ). The average unarmed victim's skin tone was darker ( $M=7.0, SD=1.88$ ) than the average skin tone from the control sample of African Americans ( $M=6.2, SD=1.95$ , **Figure 2**). Because the distribution of police victims (**Figure 1**) appeared skewed and possibly non-normal, we also conducted a Mann-Whitney U test, which also found a significant result ( $U=20769, z = -3.98, p < 0.0001$ ).

We expected men to face more colorism than women in regard to police brutality. There were 9 females and 120 males, additionally one male was excluded due to not being able to find a picture of the victim. An independent t-test found no difference in skin tone between genders ( $t(127) = -0.65, p = 0.26$ ). No clear conclusion can be drawn due to the few numbers of females, but male victims were darker on average ( $M=7.0, SD=1.89$ ) compared to females ( $M=6.2, SD=1.75$ ). Because of the possibility of a non-normal distribution of victims' skin tones, we also completed a Mann-Whitney U test between genders, which also reported a nonsignificant result ( $U=385, z = 0.96, p = 0.1685$ ).

We hypothesized the race of the police officer should not affect the distribution of the skin tones of the victims. In other words, we expected that the race of the police officer would not affect the relationship between skin tone and likelihood of being killed in a police encounter. Our analysis excluded one Asian, one pair of black and white officers, three Hispanic officers as well as 29 unknown police officers. This left 85 white and 10 black officers who killed unarmed African Americans. An independent t-test found no significant difference in skin tone of victims by police officer's race ( $t(93) = 1.18, p = 0.24$ ). However, victims killed by black officers were darker ( $M=7.6, SD=1.13$ ) than those killed by whites ( $M=6.8, SD=2.01$ ). A nonparametric analysis of the same data also revealed a non-significant difference in skin tones by officers' race ( $U = 501, z = 0.92, p = 0.1788$ ).

## DISCUSSION

In this study, we sought to investigate trends in relation to colorism and police killings of unarmed African Americans.

Our first hypothesis was that unarmed victims of police shootings tend to be darker than the average African American. This was supported by our data (**Figure 2**). We also hypothesized that the effect of colorism on likelihood of police brutality would be larger in men than in women. This hypothesis was not supported because we were unable to make a clear conclusion due to the low number of females in our dataset. However, the males in our sample were darker on average compared to females. Our last hypothesis was that there will be no effect by the officers' race on the proportion of dark-skinned African Americans killed. This hypothesis was supported because both black and white officers were more likely to kill darker skin toned African Americans. We also found no difference in skin tones of the victims between different races of officers.

In a prior 1999-2014 study, Crutchfield et al. also found that police killed darker African Americans (2). The median skin tone in that study was six; 58% had a six rating or more. We also found that police killed darker African Americans in 2015-2021. The average skin tone in our study was 7.0. We used the same scale for color, the PCSS, as Crutchfield et. al. Now that we have strong evidence that darker African Americans are more likely to be killed by the police, we are more confident that colorism is a factor in police killings. In this study, we updated and expanded the analysis of the role of skin tone in police shootings beyond 2014 until modern day. Also, our study compared a group of African Americans who did not have contact with police. We are confident the group was unlikely to have had significant interactions with the police because of the school's strict admissions policies. We also used a third rater to make our color ratings more accurate. Police violence is not just a question of race but of color as well.

Research shows that race is more important than gender in the odds of being killed by police, but with so few black women being killed compared to males, drawing conclusions may be subjective (7). Prior research found only 8 unarmed women victims in 1999–2014, but most were a "6" or darker, like the males. We found that there were only nine female victims in our dataset, and their average skin tone was 6.2, which is lighter than the males' average skin tone (7.0). It is impossible to make a conclusion because there is very little data on women. We do know that men face racism (7) and colorism (8) more than women when it comes to police killings, but this does not mean women are not discriminated against.

Our research suggests that the relationship between skin tone and the likelihood of being killed in a police interaction is not affected by the race of the individual cops, arguing that the stereotype that all white cops are racist and black cops are not racist is not true. Rather, our data suggests it is the system that is racist rather than the individuals. We found that both black and white cops kill darker people. Our findings are consistent with what others have found. Other researchers have used critical race theory to argue that the police participate in a racist and biased system and that the system is unfair to black people (6). Therefore, the criminal justice system has biases regardless of the individual, and everyone has a responsibility to help because they are part of the system. Our society needs to talk about the justice system, not just the individual officers.

One limitation we encountered while collecting data is

that we could not find a photo for one of the victims. Another limitation is that rating skin tone is imperfect. Separating out colors is difficult because it depends on your focus and mood. Two of the raters knew the hypothesis, and one did not. However, the raters matched very well. This is still a limitation because the raters that know the hypothesis could have been biased in their ratings. Additionally, the yearbook photos were all well lit, while the victims' photo quality varied, so this could affect the accuracy of the ratings. The last limitation we had was that we only collected data for five years. In the future, more years should be added to the data. There should also be more people rating the skin tones, especially people who are uninvolved in the study design. Future studies should try to use a larger, more diverse sample of African Americans who have not encountered the police as well to confirm our preliminary findings.

According to our research, darker skinned African Americans are more likely to be killed by police than lighter skinned victims, providing support for critical race theory. This means the criminal justice system itself may be biased, not just a few officers. People in power need to have the will to change this. Regardless, African Americans must understand the risks of being black and especially dark, when interacting with the police. Black lives matter, but so does color within the African American community.

#### MATERIALS AND METHODS

The data in our study came from the Washington Post database on victims of police violence from 2015-2021 (1). The database has filters such as state, gender, race, age, mental illness, weapon, body camera, fleeing the scene, and year. We used the filters so that we only collected information on unarmed black victims. There were 130 victims in total. We gathered victims' information that pertains to year, gender, age, color (using a nine-shade color scale), and race of police officers. The name of the nine-shade color scale is the Physical Characteristics Satisfaction Scale (PCSS) (8), which has been used in previous research on skin tone (2). When a linked article had a picture, it was rated. However, if we could not find a picture or the article lacked information about the officer, we searched Google for additional news sources with pictures. If we could not find the race of the police officer, we put it as "unknown". When looking at Google, we looked for text around the image to ensure it was the right person then we downloaded it. If there was more than one picture, we looked for the clearest and best lit. All three raters of photos viewed the images on an HP Chromebook with the screen brightness turned up all the way. All statistical calculations were made using the calculators on [vassarstats.net](http://vassarstats.net) while figures were made in Google Sheets. In the results, the following abbreviations were used: *t* is two-tailed t-test; *M* is mean; *SD* is standard deviation; and *U* is Mann-Whitney U-test, *z* is z-score and  $\eta^2$  is effect size.

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