

## Examining the Effects of Candidate Race and Trustworthiness on Hiring Decisions

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Resume screening is the first step in the hiring process that prioritizes certain prospective job applicants. Many social group indicators, such as race, sex, and age, can influence the probability of job applicants being hired (Reskin, 1999; Freiburger, 2013). The current study examined how candidate race and trustworthiness interact and shape hiring decisions.

According to the literature, the resume screening portion of the hiring process is the most susceptible to bias. The reason is that during resume screenings there is a paucity of information to act on, which provokes automatic processing. Automatic processing is unconscious and results in categorization of a person, which can activate stereotypes. This increases the likelihood that an employer might make an unconscious and biased decision, affecting job applicants (Kahneman, 2003). The impact of race and ethnicity on hiring decisions and employment opportunities has been extensively examined. For instance, applicants with names indicating a minority ethnicity or darker skin tone received lower rates of call backs when compared to White candidates with the same qualifications (Derous, 2018).

Racial bias can be both explicit and implicit (Huajian, Sriram, and Greenwald, 2002). Explicit racial bias is consciously accessible, which means that these biases can be controlled and individuals are aware of them. Implicit racial bias is not accessible and exists beyond our consciousness, which means that individuals are not aware of these biases. Both of these biases can influence our attitudes and, as a result, our decisions. An example of explicit racial bias occurs when an employer, consciously, does not hire a Black applicant with better qualifications than a White applicant. Research shows that individuals with high levels of explicit racial bias show more prejudicial attitudes when compared to individuals with comparably low levels of explicit racial bias. Explicit and implicit bias also interacted with each other, such that individuals with high internal(implicit) bias and low external(explicit) bias would exhibit much lower levels

of implicit racial behavior (Devine & Plant, 2002).

A large body of research shows the variety of ways in which race and ethnicity affect how minorities are treated in the job market. For instance, research on the racial pay gap reveals that on average Black men earn only 71 percent of the hourly wage of White men (PewResearch, 2015). A review of the race pay gap found that it was getting smaller around the year 2000, but since then has been widening until 2018 (Mandel & Semyonov, 2016; BLS, 2019). According to the Bureau of Labor Statistics, in 2018 the unemployment rates were consistently higher among Blacks of every age when compared to Whites of the same age range. Even in salary negotiations, racial bias has been shown to influence monetary awards for Black job seekers. They found that more racially biased job evaluators tend to expect Black job seekers to not negotiate when compared to similar White job seekers (Hernandez et al, 2019). Naturalized African-Americans even experience this bias in U.S. federal agencies in the form of false assumptions, favoritism, and unfair denial of opportunities for promotion and professional development (Bilong, 2018).

Even names that indicate race can affect employer decisions. A field experiment focusing on applicants' names found that prospective employees with a White sounding name received 50 percent more interview requests compared to a person with a Black sounding name (Bertrand, 2004). The literature reveals that social perceivers are influenced by racial and ethnic cues not only from candidates' names, but also from visual cues.

Research performed in Austria used noticeable visual cues to provoke racial bias in resume screening by coupling a photo of the applicant with the resume (Weichselbaumer, 2017). These photos were meant to be similar in attractiveness, likability, intelligence, and reliability. The results indicated a substantial bias towards applicants of non-Austrian descent (Serbian, Turkish, Chinese and Nigerian) and especially against applicants with African background. While including a photo with a resume is not common practice in the United States, the Society for Human

Resource Management has stated that human resource professionals have started using social media more often for talent acquisition and prescreening and, as a result, they are exposed to the faces of prospective job candidates, which could lead towards unconscious bias towards minorities (SHRM, 2016).

Including faces of the applicants introduces other factors that affect resume screening decisions beyond race, such as implicit judgements of dominance and trustworthiness, which social perceivers automatically derive upon seeing a face (Ballew & Todorov 2007; Mueller & Mazur 1996). While some stereotypes are based on race, other social features, such as trustworthiness and dominance, are extracted and stereotypes based on these features are likely to be activated. Individuals extract these character assumptions because there is a belief, known as physiognomy, that the true nature and even the personality of a person could be inferred from facial features. Such beliefs have been proven unsubstantiated people can't accurately judge character and personality from faces alone. (Hassin & Trope, 2000). The processing of faces and inferring traits is automatic, meaning that perceivers are not always consciously aware that these processes occur, and therefore it is harder to control them.

One study claimed that the efficiency of trait judgments have evolutionary significance, in that faces that seem to show anger have a higher threat level when compared to faces that seem to show happiness, regardless of whether the face is truly expressing this emotion. This unconscious bias influences us to associate with individuals with low threat levels, resulting in an increase in survivability. They also found that people make specific trait judgments based on facial features. One example is that dominant looking faces that remained inexpressive had the tendency to be classified as expressing anger. The research also found that people, when exposed to a trustworthy face, will unconsciously assume that the person has honest intentions. These trait judgments are made about a person before even conversing with them and can predict discriminatory behaviors. The findings suggested that people overgeneralize when evaluating faces to infer harmful intentions, which the Oosterhof and Todorov research mention to not be accurate (Oosterhof & Todorov, 2008).

The study used a principal components

analysis (PCA) to identify two orthogonal dimensions of valence and dominance, which represent the primary features that social perceivers automatically derive from human faces. The data revealed that the first principal component accounted for judgments of trustworthiness and related features, whereas the second principal component accounted for judgments of dominance and related features of face evaluation. In follow up studies the researchers used data-driven statistical models for face representation in order to generate and validate visual representations of facial trustworthiness and facial dominance. Facegen Modeller program was then used to generate faces that varied on trustworthiness and dominance. Because the features are based on subtle variations, the facial features were given exaggerated qualities such as maturity and femininity-masculinity and angry-happy expressions. They then collected judgments of the faces on dimensions of trustworthiness and dominance. Finally, they demonstrated that salient social features, such as violence or threat can be reproduced by the two orthogonal dimensions of dominance and trustworthiness (Oosterhof & Todorov, 2008).

An empirical study focusing on the relationship between facial features (dominance, trustworthiness, attractiveness) and pay found that they affect perceived value of potential employees (Fruhen, 2015). On average, greater dominance, trustworthiness, attractiveness are associated with greater pay. However, the findings also indicate that these features interact with the type of job an applicant is pursuing. Although attractiveness was a stronger predictor of salary at lower-level management positions, dominance and trustworthiness were better predictors of salary at upper-level management positions (Fruhen, 2015).

Similarly to trustworthiness and dominance judgments, research has also revealed that social perceivers spontaneously infer warmth and competence, based on perceptually available features. Both warmth and competence ratings appear to vary based on belonging to certain social groups (Cuddy & Fiske 2011). They define warmth as a combination of trustworthiness, sincerity, and friendliness, and it is usually derived from the perceived intentions of the person. Groups with high warmth are usually children, elderly, black mothers, and middle-class, while groups with low warmth are usually the poor, uneducated, and upper class.

Competence, however, is inferred to a large degree based on status, and it includes considerations of economic success and job prestige, which are indicators of capability and skill. Groups with high competence are usually professionals, business-people, and educated, while groups with low competence are usually poor, uneducated, and children. The research noted that both warmth and competence can reliably differentiate societal group stereotypes. For instance, people with a warm or competent face seem more likeable and will therefore be easily assimilated into many other social groups. They also stated that this phenomenon is common to all humans and stems from the basic survival need to differentiate between friend/foe or ingroup/outgroup.

The research shows that judgments on the fundamental warmth and competence dimensions are often negatively correlated, meaning that when someone perceives an individual as competent they are also somewhat seeing that person as cold (Judd et al., 2005).

To summarize, research reveals that a paucity of information opens the door to unconscious biases. This is especially the case in regard to race, showing that Black applicants are routinely given less call back opportunities and less pay than Whites. Research has also found that facial features can also influence pay and hireability. Faces that were seen as more trustworthy, dominant, and attractive were indicators of increased pay compared to their peers with the same qualifications. However, no research has investigated the interactive effects of race and socially salient facial features on hiring decisions and employment opportunities. Therefore, the current experiment manipulated both the race and the trustworthiness of fictitious job candidates, and it examined their effects on hiring decisions, such as likelihood of calling back, interviewing, and perceived applicant value. For example, the current work enables us to compare how a Black trustworthy-looking male is perceived in the job market compared to an untrustworthy-looking White male face with the same qualifications. The intent is to observe differences in perceived value of job applicants as a function of both race and trustworthiness, automatically derived by perceivers.

## Materials and Methods

### Participants

The study recruited  $N = 177$  participants (101 male, 75 female, and 1 nonbinary) with an average age of 38.17 years. All participants were required to currently hold a supervisory position at their work in order to participate. Doing so ensured that data would only be generated by those who are familiar with making hiring decisions. The sample was recruited through Amazon's Mechanical Turk, using the TurkPrime data collection platform. TurkPrime is an online crowdsourcing marketplace that can be used to collect data and complete tasks such as rating job applicants. This tool makes it easier to collect data from across the United States, and it makes it easier to recruit a non-student population with some hiring experience. All participants were Whites. The survey took approximately 25-30 minutes to complete and participants were compensated 3 dollars upon completion of the experiment. An additional fee of 3 dollars per participant was paid in order to access TurkPrime panels of only White participants who hold jobs in supervisory capacity that require them to hire and fire personnel. All research followed the ethical guidelines set forth by the Human Research Committee at Hampden-Sydney College.

### Materials

#### Resume

A resume that was inspired from a sample resume that received an 80% satisfaction rating. However, some aspects were removed to make it less satisfactory to the participants. The resume includes a career overview, core strengths, work experience, education, and references section.

#### Job Description

Participants were told that the applicant was applying for a position as a postal service clerk. This position was chosen because the Bureau of Labor Statistics noted that this position is the one most equally diverse amongst both Blacks and Whites (BLS, 2019). The goal is to make the job equally applicable to Black and White applicants.

### Faces

The faces of the applicants were taken from the Chicago Face Database, which is a free open source set of faces. The face identities range from ages 18 to 40 years old males and females of varying race and ethnicity. Each face has been rated on a number of physical attributes (e.g., face size) as well as subjective ratings by independent judges (e.g., attractiveness, dominance, trustworthiness). The database is widely used in social and behavioral research and it features established reliability and validity of the face ratings (Ma, Correll, & Wittenbrink, 2015). The Chicago face database made participants measure the subjective ratings on a 1–7 Likert scale (1 = Not at all, 7 = Extremely) when asked how much the face showed characteristics of a trait. For the current research, 4 faces were used that were kept as consistent as possible in dominance, age, and attractiveness but vary in race (Black, White) and trustworthiness (High, Low).

The faces used had the following characteristic ratings: Black male applicant with high trustworthiness with a rating of 2.57 in dominance, 3.8 in trustworthiness, 3.5 in attractiveness, and 27 in age; a White male applicant with high trustworthiness with a rating of 2.18 in dominance, 3.9 in trustworthiness, 3.7 in attractiveness, and 30 in age; a Black male applicant with low trustworthiness with a rating of 2.8 in dominance, 2.88 in trustworthiness, 2.56 in attractiveness, and 27.86 in age; a White male applicant with low trustworthiness with a rating of 2.86 in dominance, 2.82 in trustworthiness, 3.35 in attractiveness, and 26 in age. The faces were included in the Linked in profiles.

### Resume

A resume that was inspired from a sample resume that received an 80% satisfaction rating. However, some aspects were removed to make it less satisfactory to the participants. The resume includes a career overview, core strengths, work experience, education, and references section.

### Cover Letter

A cover letter that was crafted using the experiences and qualifications taken from the resume.

### LinkedIn Profile

The profile was also crafted using the experiences and qualifications taken from the resume.

### **Experimental Design**

The experiment adopted a 2 (Target Race: Black, White) x 2 (Target Trustworthiness: High Trustworthiness, Low Trustworthiness) fixed factor between subjects design, where each participant was exposed to only one face along with the application materials.

### **Procedure**

Before the participants were allowed to begin the experiment, they read a consent form and indicated whether they would like to participate in the study. Specifically, they were told that they will be screening one resume along with social media profile of the applicant, and they were also asked to rate the applicants in the following ways: "I will hire this candidate based on resume, cover letter, and LinkedIn Profile." (1 Strongly agree - 7 Strongly disagree), "This candidate seems warm." (1 Strongly agree - 7 Strongly disagree), "I will call this applicant back." (1 Strongly agree - 7 Strongly disagree), "I will invite this applicant in for an interview." (1 Strongly agree - 7 Strongly disagree), "How many references will you contact?" (0-3), "This candidate is under qualified for the job." (1 Strongly agree - 7 Strongly disagree), "This candidate seems competent." (1 Strongly agree - 7 Strongly disagree), and "In what range would the starting salary you would offer this candidate be?" (30,000-60,000). Once participants provided informed consent, they continued to the main task of the experiment. If the participant declined to participate, they were rerouted to the end of the experiment and not compensated.

Participants who volunteered to take part in the experiment viewed and read job application materials that are a typical part of the hiring process. This included a cover letter, a LinkedIn profile, and a resume that were shown in that order. After review of the materials, participants were then asked to rate the applicant on the aforementioned qualifications. The risk towards participants was minimal as they did not encounter any risk greater than would otherwise be encountered in everyday life.

The experiment required no deception at all. The participants were only asked to rate the job candidates, based on their application materials. However, the participants were not initially told what the independent variables, dependent variables, or

hypotheses are because doing so would compromise the results of the experiment. Upon completion of the experiment, the participants were told that if they wish to be informed about the experiment they may email the experimenters and they would be told the true purpose and nature of the study.

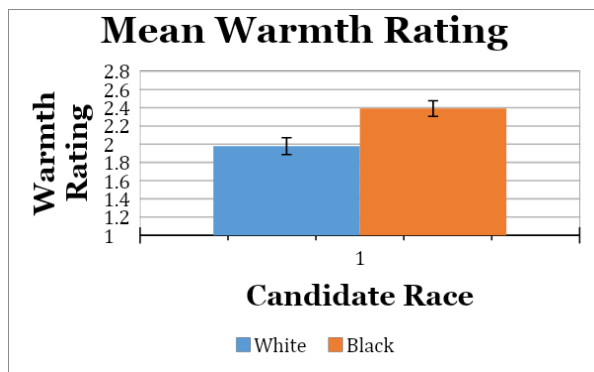
**Results**

**Analytic Approach**

In order to examine the effects of race and trustworthiness on hiring decisions, a 2 (Applicant Race: Black, White) x 2 (Facial Trustworthiness: Low, High) fixed factor between subjects ANOVA was conducted for each dependent variable. Individual responses that were 3 standard deviations beyond the mean were considered outliers and were removed prior to conducting the tests.

*Warmth Ratings*

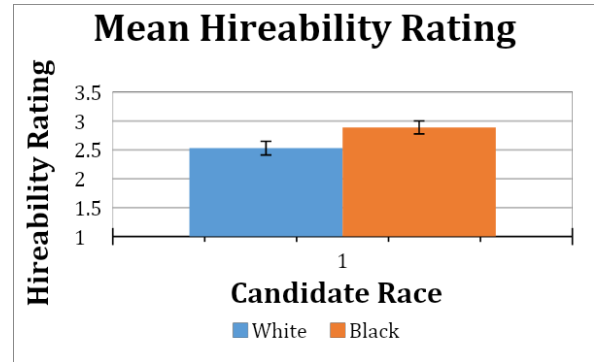
As shown in Figure 1, there was a significant main effect of race on ratings of overall perceived warmth,  $F_{(1,159)} = 10.721, p = .001, \eta^2 = .063$ , such that Black candidates ( $M = 1.97, SD = .894$ ) were seen as less warm than White candidates ( $M = 2.39, SD = .692$ ). There was not a significant main effect for trustworthiness,  $F_{(1,159)} = 2.143, p = .145, \eta^2 = .013$ . There was also no significant interaction between race and levels of trustworthiness,  $F_{(1,159)} = 1.058, p = .305, \eta^2 = .007$ . Fourteen outliers were removed from this variable.



*Hireability Ratings*

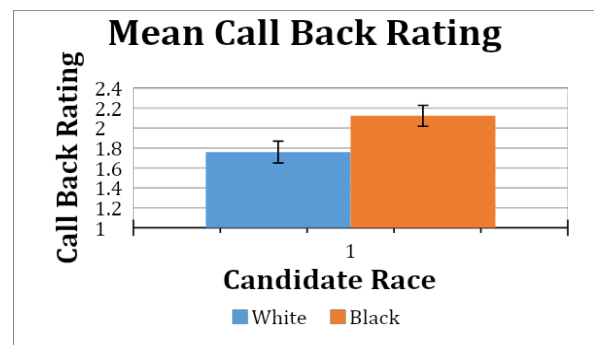
As shown in Figure 2, there was a significant main effect of race on ratings when asked if the participants would hire this candidate based on application materials,  $F_{(1,167)} = 4.761, p = .031, \eta^2 = .028$ , such that Black candidates ( $M = 2.89, SD$

$= .121$ ) were seen as less hireable than White candidates ( $M = 2.53, SD = .90$ ). There was not a significant main effect for trustworthiness,  $F_{(1,167)} = 1.715, p = .192, \eta^2 = .010$ . There was also no significant interaction between race and levels of trustworthiness,  $F_{(1,167)} = .002, p = .968, \eta^2 = .000$ . Six outliers were removed from this variable.



*Call Back*

As shown in Figure 3, there was a significant main effect of race on ratings when asked if the participants would call this candidate back,  $F_{(1,166)} = 6.154, p = .014, \eta^2 = .036$ , such that Black candidates ( $M = 2.12, SD = 1.136$ ) were seen as less likely to be called back when compared to White candidates ( $M = 1.77, SD = .694$ ). There was not a significant main effect for trustworthiness,  $F_{(1,166)} = 1.133, p = .289, \eta^2 = .007$ . There was also no significant interaction between race and levels of trustworthiness,  $F_{(1,166)} = .100, p = .752, \eta^2 = .001$ . Seven outliers were removed from this variable.

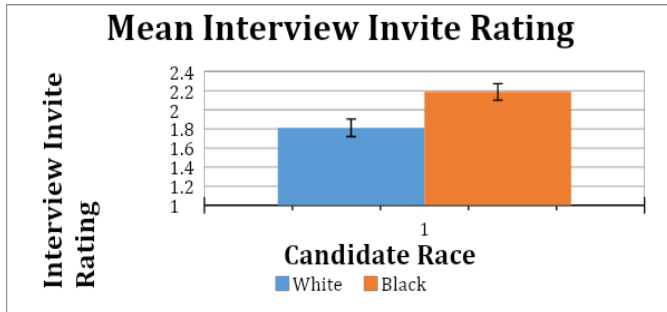


*Interview Likelihood*

As shown in Figure 4, there was a significant main effect of race on ratings when asked if the participants invite this applicant in for an interview,  $F_{(1,168)} = 6.101, p = .015, \eta^2 = .035$ , such that Black candidates ( $M = 2.19, SD = 1.1217$ ) were seen as less likely to be invited in for an interview when compared



to White candidates ( $M = 1.82, SD = .669$ ). There was not a significant main effect for trustworthiness,  $F_{(1,168)} = .704, p = .403, \eta^2 = .004$ . There was also no significant interaction between race and levels of trustworthiness,  $F_{(1,168)} = .161, p = .689, \eta^2 = .001$ . Five outliers were removed from this variable.

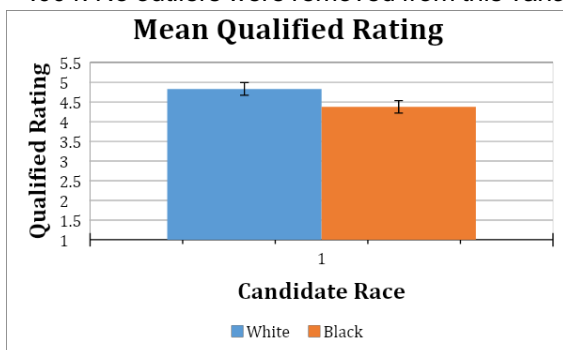


**Number of Contacted References**

There was no significant main effect of race on ratings when asked how many references the participant will contact,  $F_{(1,169)} = 1.106, p = .295, \eta^2 = .006$ . There was not a significant main effect for trustworthiness,  $F_{(1,169)} = 1.357, p = .246, \eta^2 = .008$ . There was also no significant interaction between race and levels of trustworthiness,  $F_{(1,169)} = 2.164, p = .143, \eta^2 = .013$ . Four outliers were removed from this variable.

**Perceived Qualification Ratings**

As shown in Figure 5, there was a significant main effect of race on ratings when asked if the participants would consider this candidate underqualified for the position,  $F_{(1,173)} = 4.015, p = .047, \eta^2 = .023$ , such that Black candidates ( $M = 4.38, SD = 1.583$ ) were seen as less likely to be called back when compared to White candidates ( $M = 4.82, SD = 1.443$ ). There was not a significant main effect for trustworthiness,  $F_{(1,173)} = 3.109, p = .080, \eta^2 = .018$ . There was also no significant interaction between race and levels of trustworthiness,  $F_{(1,173)} = .615, p = .434, \eta^2 = .004$ . No outliers were removed from this variable.



**Competence Ratings**

There was no significant main effect of race on ratings when asked how competent the applicant seemed,  $F_{(1,159)} = .818, p = .367, \eta^2 = .005$ . There was not a significant main effect for trustworthiness,  $F_{(1,159)} = .272, p = .603, \eta^2 = .002$ . There was also no significant interaction between race and levels of trustworthiness,  $F_{(1,159)} = .091, p = .763, \eta^2 = .001$ . Sixteen outliers were removed from this variable.

**Salary Estimates**

There was no significant main effect of race on ratings when asked how much they would offer the candidate as a starting salary,  $F_{(1,173)} = .001, p = .971, \eta^2 = .000$ . There was not a significant main effect for trustworthiness,  $F_{(1,173)} = .377, p = .540, \eta^2 = .002$ . There was also no significant interaction between race and levels of trustworthiness,  $F_{(1,173)} = .144, p = .705, \eta^2 = .001$ . No outliers were removed from this variable.

**Discussion**

The goal of the current research was to test how the race and trustworthiness of job candidates jointly and independently influence hiring decisions. The applicants in the simulated hiring process were similar in every way in the mind of the participants except for the applicant’s race and trustworthiness. The applicants were rated on several dimensions that employers consider when hiring candidates. The data revealed that race influenced perceived employee value. Specifically Blacks were seen as less qualified, less likely of being called back, less likely to be hired, and less likely to be invited for an interview. It also found that White candidates were perceived as warmer, which is contrary to previous research (Cuddy & Fiske, 2011). In every other case of a statistically significant variable the Black candidates were deemed as less desirable when compared to White candidates even though the resume, cover letter, and linked in profile remained constant.

The hypothesis stating that Black candidates with low trustworthiness would be seen as the least qualified in the eyes of the participants was partially supported. Black applicants were seen as less qualified, but there was no statistical evidence that trustworthiness,  $F_{(1,173)} = 3.109, p = .080, \eta^2 = .018$ , has any effect in either direction on perceived qualifications of the job candidate. However, the results almost approached a significant level, such that the high trustworthy faces ( $M = 4.79, SD = 1.480$ ) were

seen as more qualified than the low trustworthy faces ( $M = 4.41$ ,  $SD = 1.556$ ). Even though it was hypothesized that Black applicants would be perceived as warmer, White applicants were actually perceived as warmer. The previous research indicated that warmth was heavily influenced by a person's perceived intentions (Cuddy & Fiske, 2011). Somethings in the application materials, such as the cover letter, could have possible interrupted the perception of the applicant's warmth.

One limitation of the experiment is the opportunity to convey trustworthiness through a single profile picture. The results of the experiment made it clear that trustworthiness of the face did not play a significant role in determining the desirability of the candidates. It is possible that the level of facial trustworthiness was clearly communicated to the applicant. However, when participants were asked about perceived qualification, significance was almost reached in one instance of a main effect with levels of trustworthiness,  $F_{(1,173)} = 3.109$ ,  $p = .080$ ,  $\eta^2 = .018$ . Many experiments have discussed the importance of trustworthiness in the workplace. In these studies the conveying of trustworthiness has been more obvious by not only relying on facial trustworthiness, but also trustworthy gained through interactions (Fruhen, 2015). Many studies have successfully used computer generated faces to exaggerate facial threat, dominance, likability, and trustworthiness, and, as a result, has produced statistically significant outcomes (Cortes et al, 2019). However, the faces were the main aspects being rated, which would mean the faces were given much more attention. It is possible that the faces were given little to no attention when being viewed, especially if the participants are used to hiring practices.

Another limitation of the experiment comes from the faces taken from the Chicago Face Database. Faces are very complex and the database used has ratings on many different aspects of the faces not mentioned in the experiment such as angry, afraid, feminine, eye width and even face shape. Equating the ratings for dominance, age, attractiveness, and trustworthiness was proven to be difficult when crafting the experiment and attempting to find two or four natural faces that have similar ratings in every single quality would be impossible given the current database. In the future, computer generated faces would be the safest route as the experimenter has the

ability to exaggerate the differences of the qualities they wish to measure and also keep controlled variables consistent across all faces.

A third limitation of the experiment was truly simulating the environment of resume screening in the application process. According to Glassdoor, the average corporate job attracts 250 resumes (Glassdoor, 2017). As a result, many resumes are looked over for as little as 5 seconds at a time (Forbes, 2018). This results in more automatic processing, which is unconscious, faster, activates when there is a paucity of information, and results in stereotyping. When looking over many resumes and spending only a few seconds on one, automatic processing results in more bias being revealed. In the experiment, the participants were given an unlimited amount of time to complete the ratings. The more time that the participant took would result in more information being present, which the participant could then act on. This additional information and time would result in controlled processing, which more conscious, deliberate, is slower, and usually referred to as reasoning (Schneider & Chein, 2003). In the future, it may be better to have participants survey and rate many different resumes in a short time period, forcing automatic processing.

For future research, knowing an employer's level of explicit and implicit racial bias could be a predictor for their behavior towards Black candidates. The participant could take both an implicit association test and a racial prejudice scale. The results could then be compared to how the participants rated the applicants. A correlation could then be made on the levels of implicit and explicit racial bias on the ratings of the applicants if they were White. The explicit and implicit bias should affect the employer's decision making when hiring or promoting employees, as previous research has suggested (Devine & Plant, 2002).

The current study demonstrated that race influences the hireability of job applicants, such that Whites are seen more favorably than Blacks. The conclusion that can be drawn from this study are that people, even those who currently hold a supervisory position, are routinely affected by racial bias in their hiring decisions. As a result, minorities are faced with both explicit and implicit discrimination in the form of nepotism, favoritism, and unfair denial of opportunities, which affect minorities' attitude towards their work environment (Bilong, 2018). This is

important for human resource professionals to be aware of because informing oneself about these biases is a great way to prevent them from influencing hiring decisions in the future. Racial bias has not yet gone away, so it is important to stay aware of its unconscious influence on our decisions.

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