Narrow Imaginations:
How Narrowly Imagining White Employees can lead to Biased Hiring Practices

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Abstract

JAZMIN L. BROWN-IANNUZZI: Narrow Imaginations: How Narrowly Imagining White Employees can lead to Biased Hiring Practices
(Under the direction of B. Keith Payne)

When people make important decision, such as selecting a job candidate or graduate applicant, they often begin by imagining the ideal candidate and evaluating applicants based on how well they fit with that imagined ideal. In two experiments we provided evidence that imagining the ideal has unintended consequences. Imagining an ideal candidate for a professional job led participants to preferentially imagine a White candidate (Experiment 1) and to preferentially hire a White candidate over a Black candidate with matched qualifications (Experiment 2). These effects were independent of explicit prejudice, suggesting that even low-prejudice individuals may be affected by this bias. However, an alternative imagery strategy – imagining a variety of suitable applicants – was effective at remediating the bias. In some cases discrimination may result not from prejudiced attitudes but from failures of the imagination.

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Chapter 1: Theoretical Background

Despite the social norms against expressing racial prejudice, racial disparities still exist. Lower educational attainment, lower home ownership rates, and higher poverty rates disproportionately affect minorities (Census Bureau, 2005). Previous research has focused on factors that lead to racial disparities. Psychological research has suggested that racial prejudice is one factor that leads to racial disparities. The current thesis suggests another mechanism which influences biased hiring, namely that racial minorities simply are not considered during the decision making process and this results in racially biased decisions. For example, in the realm of occupational hiring, employers may have a mental image of their ideal job candidate. This candidate is most likely of a certain race, namely White. Anchoring on this ideal candidate leads employers to simply not consider candidates of other races. This is in opposition to considering minority candidates and then dismissing them based on stereotypes. This lack of consideration for other races may also contribute to racial disparities.

The current thesis will explore racial disparities in occupational hiring. We chose to investigate racial disparities in occupational hiring because it is a major contributor to inequalities in other domains such as poverty rates, home ownership, and access to education. First, we will discuss racial disparities in the labor market. Next we will discuss how psychological factors, such as prejudice, can lead to racial disparities. Finally, we will propose another psychological mechanism which may also result in biased hiring practices.

Modern Manifestations of Racial Disparities

Expressing racial prejudice has drastically diminished since the 1940s. White individuals' attitudes toward school integration, living in a diverse neighborhoods, and interracial marriages have become significantly more positive from the 1940s to 1990s (Bobo, 2001; Schuman et al., 1997). In fact, 68% of Whites reported "overwhelming acceptance of the principle of segregated schooling" in the early 1940s, but by 1995 more than 90% of Whites preferred "the principle of integrated schooling" (Schuman et al., 1997, p. 105). This drastic change shows that attitudes are becoming significantly more positive toward minorities. Unfortunately, despite improving attitudes toward minorities, a significant racial disparity still persists in many facets of life.

Racial disparities in the labor market are drastic and have remained mostly unchanged for many years. The unemployment rate for African Americans is twice the unemployment rate for White Americans, and the differences persist after controlling for educational attainment (Council of Economic Advisers 1998). Furthermore, employed African Americans earn on average 25% less than their White counterparts. These wage and unemployment differences between Black and White Americans have been stable for the past 15 years. Therefore, regardless of increasing social norms to be egalitarian, racial disparities remain.

The racial disparity in the labor market may reflect discrimination, actual race-based differences in the quality of job applicants, or a combination of both. Previous research has sought to disentangle racism from race-based differences. For example, one study sent resumes and trained Black and White actors to interview for entry-level jobs (Turner, Fix, & Struyk, 1991). The resumes were matched on skill and manipulated to appear from a Black

or White applicant. The actors were trained to behave in a similar manner throughout the interviews. The results revealed that the Black applicants were less likely to be called for an interview than their White counterparts. Once in the interview, the Black actor received a shorter interview and more negative comments than the White actor. Additionally, the White actor was more likely to receive the job than the Black actor. Taken together, this study lends evidence to the idea that racial disparities in the labor market reflect discrimination, holding skill constant between racial groups.

In another study, Bertrand and Mullainathan (2004) sent resumes to corporations' job advertisements and recorded the call-back rate. The resumes reflected a range of skill, educational achievement, and previous work experience. Each resume was duplicated and randomly given a stereotypically White or Black sounding name. Thus, the researchers only manipulated the race of the applicants and controlled for all other features. The results revealed that Black applicants received 50% fewer call-backs for interviews than did matched White applicants, and these effects remained after controlling for education and perceived socioeconomic status. Highly qualified applicants did lead to increased call-back likelihood. The rate of call-backs for well qualified Black applicants, however, was significantly lower than that for well qualified White applicants, and this effect remained after controlling for perceived socioeconomic status. Therefore, highly qualified Black applicants were still not considered as desirable as their matched White counterparts.

Pager and colleagues (2009) extended the previous findings by investigating racial disparities in entry level occupational positions among individuals with a criminal record. The researchers conducted a field study in which three trained actors applied for entry level, low wage jobs. The actors were matched on height and physical attractiveness, and were

trained to behave in an identical manner. The only major difference between the actors was race: one actor was White, one actor was Black, and one actor was Hispanic. The actors had resumes matched on skill and qualifications. Criminal history was manipulated by having the applications reveal a drug felony conviction and a served sentence of 18 months in jail, or the application revealed a clean criminal record. The authors recorded call-back rates and whether the applicant was offered a job. The data revealed that White applicants with a clean record were significantly more likely to receive a call-back or get offered the job than were Black or Latino applicants with a clean record. More crucially, however, the results showed that Black and Latino applicants with no criminal history were just as likely to get a call-back and offered a job as was a White applicant who had been convicted of a drug felony. Thus, the consequence of being a minority was equivalent to having a prison record. This result demonstrates that racial discrimination is present in call-back rates and job offers (*see* Fix & Turner, 1999 for a review of field studies on racial disparities).

Psychological Processes that lead to Biased Hiring

Psychological studies have investigated the mental processes which give rise to biased hiring in the labor market. Biased hiring practices are probably influenced by multiple psychological processes; one of which is explicit racism.

Although some individuals are openly bigoted, subtle racism is more common given current social pressures to appear egalitarian. Previous researchers have used the aversive racism framework to explain covert racism in hiring. Aversive racism is characterized as endorsing non-prejudiced views, yet discriminating in subtle ways (Dovidio, & Gaertner, 1998; Gaertner & Dovidio, 1986). Aversive racists will only display prejudicial behavior when factors other than race can justify the behavior (Dovidio & Gaertner, 2000; Hodson,

Dovidio & Gaertner, 2002). Because some situations allow for other factors to justify biased behaviors, people can publicly and privately appear egalitarian.

In a study by Dovidio and Gaertner (2000) participants were given a resume of a clearly strong, weak, or ambiguous applicant and asked to determine whether the applicant should be recommended for a job. The race of each applicant was also manipulated to be Black or White. The results revealed that when a person was clearly a strong or weak candidate, then race did not impact the decisions. However, when participants were presented with ambiguous applicants, participants chose and strongly recommended the White applicant significantly more than the Black applicant. The authors regarded this behavior as an expression of aversive racism because when the situation allowed for a biased response to be attributed to other factors (e.g. insufficient skills required for the job), the participants acted in a biased manner.

Norton, Vandello, and Darley (2004) investigated how individuals justify biased behaviors in order to appear egalitarian. Participants were given a few resumes and asked to determine which individual was best suited to be a construction manager. Two resumes were clearly better than the others. One of the elite resumes showed the applicant had more education, and the other elite resume showed the applicant had more high quality work experience. Of the two elite resumes, one application was randomly assigned to be a female and the other one a male. Due to the stereotypically male nature of the job, participants were more likely to choose the male rather than female applicant for the job. Additionally, the justification for the male bias changed depending on the area in which the male applicant excelled. When the male applicant was better educated, then participants claimed education was most important for the job. But when the male applicant had more work experience,

participants claimed work experience was more important. The authors argue that this public justification was made regardless of whether the justification truly reflected the reasons for making the choice. The participants preferred the male applicant and then made ad-hoc justifications for their choice.

Explicit measures of attitudes toward Blacks can also influence biased hiring practices. Brief and colleagues (2000) investigated how individual differences in prejudice interacted with the situation to produce discrimination in a similar hiring task. Participants were given the Modern Racism Scale (McConahay, Hardee & Batts, 1981; McConahay, 1983) before participating in a study about job placement. Once in the study, participants were asked to determine whether or not they would choose to interview a White or Black candidate. The candidates were matched on job qualifications. In one condition, participants were told that the company president favored homogeneous marketing teams because they are more successful than diverse teams. In the other condition, participants were not given any information about the president's preferences on the composition of marketing teams. The results revealed that in the condition where the president preferred homogeneity, highly prejudiced participants recommended White applicants significantly more than Black applicants. When the president's preferences were unknown, highly prejudiced individuals displayed egalitarian preferences for applicants. Less prejudiced individuals did not recommend White applicants more than Black applicants in either condition. Thus, the interaction between the situation and the individual's attitudes towards Blacks led to biased hiring.

With increasing social pressure to be egalitarian, researchers have begun investigating the role implicit prejudice has on hiring decisions. Implicit attitudes are automatically

activated good or bad evaluations (Olson & Fazio, 2003). Because implicit attitudes assess automatic reactions, it is difficult for individuals to "hide" these attitudes to appear egalitarian on implicit measures. For this reason, Zeigert and Hanges (2005) assessed implicit attitudes toward Black individuals with the Implicit Association Test (Greenwald et al., 1998), then had participants play the role of manager and decide who to hire. The paradigm was similar to the Brief and colleagues (2000) study in that participants were randomly assigned to a "climate of bias" or to a neutral climate. The distinction between them was the presence or absence of a note from the president of the company encouraging racial discrimination to maintain the stability of the company. The results revealed that when the president condoned biased behavior, participants with more negative implicit attitudes toward Blacks were more likely to discriminate than were participants with less negative implicit attitudes. In the neutral condition, more negative implicit attitudes did not predict more biased hiring.

The evidence above suggests that prejudice leads to negative reactions to minority applicants, regardless of the skill of the minority applicants. The negative reactions then lead to biased hiring. Whether explicit or implicit, hostility towards minorities is the common thread among these studies. This process suggests an act of commission, in which people are actively excluding minorities based on negative reactions.

Biased hiring practices might also result from an act of omission. Specifically, people may neglect to think of minorities when imagining possible job candidates; rather, they bring to mind only ingroup members. This failure to consider outgroup candidates can lead to a biased search which leads to biased hiring. Thus, people may not be actively excluding

minorities, but instead passively neglecting to include minorities. The research on outgroup invisibility lends evidence to this theoretical approach.

Outgroup Invisibility

Racial disparities in the labor market may reflect employers' failure to consider outgroup candidates more generally. Previous research suggests that people only pay attention to, and have better memory for, individuals who are representative of a given category (Rosch, 1975). It follows that when people are not representative of a given category, they may not be attended to or remembered (Purdie-Vaughns & Eibach, 2008). For example, the category "nurse" may bring to mind an image of a woman in scrubs, but not an image of a man in scrubs. Thus, the lack of a mental representation for male nurses may lead to failure to attend to male nurses. This lack of a mental representation for a given group of people is called outgroup invisibility (Fryberg & Townsend, 2008).

Outgroup invisibility can result in poor memory for non-typical individuals. Sesko and Biernat (2010) investigated memory for Black women. Previous research has shown that when thinking about women, people think about White women. Additionally, when thinking about Blacks, people think about Black men. Therefore, Sesko and Biernat (2010) hypothesized that Black Women were an invisible group. To test this hypothesis, participants were asked to form an impression of individuals based on pictures. Later, participants were asked to determine whether they had previously seen the picture, or if the picture was of a new individual. Participants were significantly worse at remembering Black women they had previously seen than any other group previously seen. Additionally, participants were more likely to think they had previously seen pictures of novel Black women than novel individuals from other groups. This inability to distinguish old targets from new pictures

suggests that participants were not initially attending to Black women as well as Black men or White men and women. Put simply, this study supports the theory that Black women are an invisible outgroup.

Narrow Imaginations

In addition to lack of memory for minority applicants, outgroup invisibility suggests that employers are simply not thinking of minorities as representing the working individual. Bringing it back to the nurse example, we normally only think of female nurses, and do not even bring to mind the image of a male nurse. That is, our imagination has a very narrow representation of what a nurse looks like. Extending this logic into the realm of hiring, employers may only bring to mind images of White people as representing "employees". We call the restricted imagination of a category a narrow imagination. Basically, people are narrowly imagining White people as employees, not the wide range of individuals who may be equally as successful in a given position.

But why would people generate one image to represent a broad category? In order to simplify the complex world, people generate a mental representation, also called a prototype, of the most typical aspects of the category (Rosch & Lloyd, 1978). The prototype is then used as the basis of comparison for each subsequent stimulus in order to see if that stimulus fits within the range of the desired category (Brewer, Dull & Lui, 1981; Rosch & Lloyd, 1978).

Previous research suggests that people create categories which are represented by an ideal prototype. Specifically, Brewer and colleagues (1981) asked participants to sort a series of pictures of people into groups based on the degree to which the pictures had shared features. Then, participants were given a series of attributes and asked to place the attributes

below the pictures that they thought best represented the attribute. Finally, participants were given a series of statements and asked to place the statement below the picture they thought would most likely say the statement. The results showed that participants naturally created categories and ideal prototypes. The ideal prototypes were evidenced by the large number of attributes placed below each individual. Additionally, prototypical individuals were more likely to have accompanying behavioral statements than were non-prototypical individuals. The authors contend that this grouping of attributes reflects the prototypical individuals of a given category. Additionally the prototypes led to placement of more behaviorally stereotypical statements, suggesting that participants were more likely to predict the behavior of prototypes.

But, what exactly is a prototype? Is it the average or extreme representation of a category? Most often, prototypes represent extremes or ideals of a given category, not necessarily an average representation of the category (Barsalou, 1985; Chaplin, John & Goldberg, 1988). For example, if the category is "annoying personality traits", people generate an extreme prototype that represents *all* annoying personality traits, not a prototype that represents an *average* of annoying personality traits (Barsalou, 1985). The use of extreme or ideal prototypes has interesting implications for the hiring process.

When an employer is seeking the ideal job candidate, the employer is most likely thinking of certain attributes the employee will have. This may bring to mind an actual image of what the ideal candidate may look and behave like. We hypothesize that anchoring on the ideal employee may lead the employer to search for candidates that will match as closely as possible to this standard. Furthermore, certain kinds of jobs, such as executive jobs, should spontaneously bring to mind White individuals, but not minority individuals. If the employer

has an image of a White prototypical worker, this may lead the employer to only consider applicants that match this racial description. Therefore, discriminatory hiring practices may occur because the employer wants to find the closest match to the prototype. The narrowing of imagination hypothesis was suggested by some rather serendipitous findings we will explain next.

Pilot Data on Narrow Imagination

In a recent study, we investigated what attributes were preferred in four social domains. The domains were co-worker, neighbor, friend, and romantic partner, and varied from far social distance to close social distance respectively (Bogardus, 1928). In a between groups study design, participants were asked to take thirty seconds to imagine their ideal co-worker, neighbor, friend or romantic partner, depending on the condition. Then, participants were given a list of physical and psychological attributes. The list included personality traits, such as outgoing, bookish, laid back; demographic information, such as political orientation, religion, educational attainment, annual income; and physical traits, such as height, body type, hair length, etc. Embedded within the list of attributes was the race of their ideal. Participants initially were told in the instructions to click on all of the attributes they thought would apply to their ideal co-worker, neighbor, friend or romantic partner. Additionally, participants were reminded throughout the experiment that they could click as many or few attributes as they desired.

Originally, we hypothesized that only in the romantic partner condition would individuals select an ideal partner based on race. We made this hypothesis for two reasons. First, this study used university students as participants. Because university students are more concerned about political correctness than average community members, we did not expect

many participants to indicate a preferred race in most conditions due to the threat of appearing prejudiced. Second, we thought that as relationships got closer to the self, the threat of appearing prejudiced would diminish and individuals would be more likely to explicitly favor ingroup members because they can justify choices based on personal preferences. Explicitly favoring ingroup members in close relationships may escape social desirability pressures to be egalitarian because the domain allows for preferences to dictate biased choices without negative ramifications. For example, we do not often hear someone get berated because he chose to date within rather than outside of his racial group. However, it is more likely to be considered inappropriate only selecting co-workers, neighbors, and to some extent friends, of one's own race. Therefore, we hypothesized that participants would only indicate a preference for White people in the romantic partner because it was not a violation of social norms. In the other conditions, we hypothesized that participants would think that indicating a race for their ideal would be a social norm violation, and thus would not indicate the race the ideal in these conditions.

Contrary to our hypothesis, White participants overwhelmingly indicated the race of their ideal across all conditions: White. The proportion of participants indicating their ideal race to be White in the co-worker, neighbor, friend, and romantic partner conditions were large ($M = 0.911$, $SD = 0.29$), and significantly larger than the proportion of participants indicating the race of their ideal to be non-White, $X^2(8,63) = 42.08$, $p < 0.0001$. In the co-worker condition specifically, the proportion of preferences for a White co-worker was 0.95 ($SD = 0.22$) and significantly larger than the next highest proportion of preferences: an Asian co-worker ($M = 0.25$, $SD = 0.44$), $t(19) = 6.62$, $p < 0.0001$. The proportion of preferences for a Black co-worker ($M = 0.15$, $SD = 0.37$) was even lower and significantly less than

preferences for a White co-worker, $t(19) = 8.72$, $p < 0.0001$. Finally, the proportion of preferences for a Hispanic co-worker ($M = 0.15$, $SD = 0.37$) was rank order lowest, and significantly less than preferences for a White co-worker, $t(19) = 8.72$, $p < 0.0001$.

These data suggest that when a person thinks of a prototype, they are narrowly thinking of a White individual with some given traits. The narrowing of imagination in this situation is interesting because race had no bearing on the desired educational level or skill attributes since participants were able to indicate those separately. Additionally, participants had the ability to leave the desired race information blank, or to indicate all races. Yet, people did neither and instead indicated that they would prefer a White co-worker. The results suggest that an image of a diverse range of individuals who can do any given job equally well is not called to mind when thinking of the ideal co-worker.

Mental Imagery and Future Behavior

Why do our mental images matter? If people are only narrowly imagining White individuals, does that really influence how people will act when searching for an employee? Mental images of an event increase the perceived likelihood that the event will occur (e.g. Carroll, 1978). Additionally, imagining a specific behavior increases the likelihood of future performance of the specific behavior (e.g. Sherman, Skov, Hervitz, & Stock, 1981). For example, Sherman and colleagues (1981) randomly assigned participants to imagine failure or success of completing an anagram task, and then gave participants an anagram. Participants who previously imagined successfully completing the anagram, compared to participants who previously imagined failing to complete the anagram, were more likely to actually complete the anagram. Additionally, Gregory and colleagues (1982) completed a field study demonstrating the power mental imagery has on behavior. The experimenters

contacted homeowners and asked them to either imagine having cable television or were given a persuasive communication about the advantages of cable television. Later, participants were re-contacted and asked whether they were interested in purchasing cable for their TV. Participants who were previously asked to imagine having cable TV were significantly more likely to want to subscribe for cable TV than participants who were given the persuasive message about the advantages of cable TV. Taken together, imagining engaging in a specific action predicts future behavior that is consistent with the imagined behavior (Gregory, Cialdini, & Carpenter, 1982; Hirt & Sherman, 1985; Sherman, Skvo, Hervitz & Stock, 1981; *see* Koehler, 1991, for a review).

Given how influential mental images can be on future behavior, it is important to investigate whether thinking about an ideal candidate truly leads to a narrow imagination. It may be that thinking of an ideal employee may lead people to narrowly imagine a White employee. In turn, this narrow imagination may lead people to only select job applicants who closely match the ideal image. Therefore, biased hiring practices may be, in part, due to the lack of consideration for a broader range or employees. In the following two experiments we examine whether imagining the ideal employee leads to a narrow imagination and in turn leads to biased hiring practices. In experiment 1 we test whether imagining an ideal employee, as opposed to a wide range of good employees, leads to participants only imagining a White employee. In experiment 2 we test whether imagining an ideal employee, as opposed to a wide range of good employees, leads participants to hire a White job applicant more often than a Black job applicant.

The two experiments conceptually test the idea that narrow imaginations lead to biased hiring. This paper does not test the full model in one study because the demand effects

on participants would be too great. Specifically, asking a participant to imagine the ideal employee, report on the race of their imagined ideal employee, and then use this image to choose an actual employee would bias participants' responses in a behaviorally unnatural manner. Therefore, in order to avoid demand effect and the potential for reactance, we are testing each link in the model separately.

Chapter 2: Experiment 1

In the current study, we investigated whether prompting individuals to think of an ideal employee actually led to a narrow imagination. Participants were asked to imagine they were looking for an employee for a recent job opening at their company. At the beginning of the experiment, participants were randomly assigned to one of three conditions. In the imagine-ideal condition participants imagined their ideal employee. In the imagine-variety condition participants imagined the wide variety of good employees. In the control condition, participants were not given any prompts before searching for an employee. Then participants were asked to describe the image(s) they had created.

Hypotheses

We hypothesized that participants asked to imagine their ideal employee would imagine a White employee more often than individuals in the imagine variety or control condition. Additionally, we predicted that participants asked to imagine a wide range of good employees would imagine a Black more often than participants in the imagine ideal or control condition. We did not have any specific predictions for whether condition would influence how often participants would imagine other races of employees.

Chapter 3: Methods

Participants

We recruited participants from an online sample using Amazon Mechanical Turk. Participants were compensated $0.45 for their time. As part of an initial screening, participants were first asked a question which assessed the whether the participant was paying attention to instructions. Participants were presented with a short paragraph which initially described that researchers are often interested in how feelings may affect choices. Embedded within the instructions paragraph a line stated: "To show that you read the instructions, please ignore the question below about how you are feeling and instead check only 'none of the above'." Therefore, participants must read through the whole paragraph of instructions in order to learn what they should do.

Below the paragraph of instructions a question was presented that asked participants to check all of the emotion words that described their current emotional state. There were twenty emotions listed and participants were able to click as many emotions as they desired. However, participants who read the instruction carefully knew that they should not report their current emotional state. Only participants who correctly answered the attention question were included in the study. The final sample was 178.

Of the individuals who indicated ethnicity, the sample was comprised of majority White individuals (48.3 %), then Asian individuals (18.5%), Black individuals (2.2%), Hispanic individuals (3.9%), and individuals who indicated their race as "other" (9%). The

average age of the sample was 31 years of age (*SD* = 10.95). Of the participants who indicated gender, 72 were male and 71 were female.

Procedures and Design

Participants were recruited to join a study that examined "Strategies to hire employees." At the beginning of the experiment, participants were told that the study was investigating effective strategies to hire employees. Participants were asked to imagine they were working as the manager of a small marketing firm which was in the process of looking for a new employee, specifically an Associate Marketing Analyst. Participants were told that the new job position needed someone with a strong educational background and knowledge of the field. We expected this professional position would elicit stereotypical expectations regarding primarily White employees.

Participants were then asked to participate in a thought exercise that investigated a specific strategy employers could use before searching for an employee. The thought exercise was the manipulation of imagination. Participants were randomly assigned to the imagine-ideal, imagine-variety, or control condition. Participants in the imagine-ideal condition were given the following instructions:

> Please take 30 seconds to imagine the characteristics of your ideal employee. Try to imagine specific traits your ideal employee would have. Ask yourself, *how does this person act? How is this person dressed? How does this person look? How does this person talk?* Create a clear image of this person in your mind. Once you have an image of your ideal employee in your head, please proceed on to the next task.

Participants in the imagine-variety condition were given the following instructions:

> Please take 30 seconds to imagine the wide variety of good employees' characteristics. Try to imagine the wide range of traits good employees may have. Ask yourself, *what are all the ways this person could act? What are all of the ways this person could dress? What are all of the ways this person could look? What are all of the ways this person could talk?* Create a clear image in your mind of the wide range of good employees. Once you have an imagined a variety of good employees, please proceed on to the next task.

Participants in the control condition did not complete the thought exercise, but proceeded directly on to the next task.

Then participants were asked to describe the mental image(s) they thought of before they were shown the applications. Participants were given a long list of physical traits, such as height, body shape, hair color, eye color, and personality characteristics, such as outgoing, funny, shy, etc. Embedded within this list was imagined employee's race: White/Caucasian, Hispanic, Asian/Pacific Islander, Black/African American, and Native American. Participants were asked to click all of the traits and characteristics that applied to their mental image(s).

For exploratory analysis, following the imagery task we included measures of explicit and implicit prejudice toward Blacks. Specifically, we asked participants to complete the Symbolic Racism 2000 scale (Henry & Sears, 2002), the Motivation to Control Prejudice scale (Plant & Devine, 1998) and the Affect Misattribution Procedure (Payne et al., 2005) was used to measure implicit prejudice. The effects of the experimental manipulation were not moderated by any of these individual difference measures of prejudice. Therefore, the measures will not be discussed here.

Chapter 4: Results

Does imagining an ideal applicant lead to a narrow imagination?

Our critical question was whether people in the imagine ideal condition were more likely to narrowly imagine the race of employees than participants in the other conditions. First we investigated whether people in the imagine ideal condition were more likely to report they imagined a White employee than participants in the control or imagine variety condition. To test whether imagining a White applicant differed by condition, we used a logistic regression. This model assumed that the outcome, imagining a White applicant or not, was a binary variable. We dummy coded the condition information and used these variables as predictors. The omnibus test of the model showed marginally significant results indicating that the manipulation had an effect on whether participants imagined a White applicant, X^2 (2, 178) = 4.75; p = 0.09 (*for frequency graph of mental image race by condition see* Figure 1).

Our planned contrasts first tested whether the imagine ideal condition was significantly different from the control condition. Consistent with our hypothesis, participants in the imagine ideal condition reported they imagined a White employee more often than participants in the control condition, X^2 (1, 122) = 4.15; $p < 0.05$. Participants in the imagine variety condition imagined a White employee at a marginally higher rate than participants in the control condition, X^2 (1, 119) = 2.64; p = .10. However, the frequencies were in the predicted direction such that participants in the imagine variety condition imagined a White employee more often than participants in the control condition.

Next we investigated whether people in the imagine ideal condition were less likely to report they imagined a Black employee than participants in the control or imagine variety condition. We used the same analysis above, but the dependent variable was switch to whether or not participants imagined a Black employee. The omnibus test of the model showed significant results indicating that the manipulation had an effect on whether participants imagined a Black applicant, X^2 (2, 178) = 7.87; $p < 0.05$ (*for frequency graph of mental image race by condition see* Figure 1).

Our planned contrasts first tested whether the imagine ideal condition was significantly different from the imagine variety condition. Participants in the imagine ideal condition reported they imagined a Black employee less often than participants in the imagine variety condition, X^2 (1, 115) = 5.33; $p < 0.05$. Participants in the control condition reported they imagined a Black employee less often than participants in the imagine variety condition, X^2 (1, 119) = 5.97; $p < 0.05$. Therefore, the imagine variety condition increases the rate at which a Black employee was imagined.

Additionally, we tested whether the participants imagined Asian, Hispanic, or Native American employees less in the imagine ideal condition than the other two conditions. We did not find evidence that imagination of Asian, Hispanic, or Native American employees differed across conditions, *all p's* > .10.

Chapter 5: Discussion

The results provide evidence that imagining an ideal employee leads to a narrow imagination. Specifically, participants asked to imagine their ideal employee narrowly envision a White employee and neglected to imagine a Black employee. Interestingly, participants in the imagine variety condition thought of a White employee, but also imagined a Black employee. This suggests that imagining variety may lead to a reduction of racially biased hiring practices.

More generally, these results provide initial support for our hypothesis that biased hiring practices may be a result of having a narrow imagination. When participants were asked to imagine their ideal employee, they narrowly imagined a White employee. Given the research on mental imagines predicting future behavior (e.g. Gregory, Cialdini, & Carpenter, 1982), it follows that the narrow imagination displayed in the current experiment could lead people to narrowly search for and consider job applicants that closely match their imagined employee. Therefore, biased hiring may be a result of simply failing to imagine racially diverse job applicants.

The narrow imagination findings are counterintuitive to traditional approaches to understanding racial disparities in the labor market. Specifically, psychological processes that lead to biased hiring have often been couched in terms of the employer having explicit or implicit prejudice toward minorities. Our results find the narrowing of imagination is present regardless of personal attitudes toward Blacks. Therefore, even though an employer may not

be explicitly or implicitly prejudiced, the employer may still only hire White individuals because they closely match the imagined ideal employee.

Chapter 6: Experiment 2

The data on the narrowing of imagine suggests that when individuals think of their ideal employee, they are narrowly imagining a White person. But does the narrow imagination lead to discriminatory behavior? In the context of hiring decisions, does having a prototype in mind lead to a biased search of applicants, or are people good at searching for a wide range of applicants regardless of their prototypical image? The current research seeks to uncover the consequences of having a narrow imagination for racial discrimination.

Experiment 2 investigated whether having a narrow imagination led to discriminatory hiring practices. Participants were asked to imagine they were looking for an employee for a recent job opening at their company. At the beginning of the experiment, participants were randomly assigned to one of three conditions: the imagine ideal condition, the imagine variety condition, and the control condition. The conditions manipulation was identical to the manipulation used in Experiment 1.

Participants were then presented with five condensed versions of applicants' resumes (*adapted from* Norton, Vandello, & Darley, 2004). The resumes were matched in qualifications for the job. The race of the applicant was manipulated by the presence of a stereotypical White or Black name. Participants were asked to rank the applicants from most desirable for the job to least desirable.

Hypotheses

We hypothesized that participants asked to imagine their ideal applicant would be less likely to rank the Black applicant first. The racial disparity in hiring was predicted to be

significantly larger in the imagine-ideal condition than the other conditions. Participants in the control condition were predicted to still show racially biased hiring practices, but the disparity was expected to be less than when participants were explicitly asked to imagine their ideal applicant. Finally, we predicted that there would be no racially biased hiring when participants imagine the variety of good employees.

Chapter 7: Methods

Participants

We recruited participants from an online sample using Amazon Mechanical Turk and compensated participants $0.45 for their time. Similar to Experiment 1, only participants who correctly answered the attention question at the beginning of the experiment were included in the study. Two additional participants were dropped from analysis because they took over 1000 minutes to complete the experiment. The final sample was 168.

The sample was comprised of majority White individuals (67.91%), then Asian individuals (14.18%), Black individuals (6.72%), Hispanic individuals (5.22%), and individuals who indicated their race as "other" (5.97%). The average age of the sample was 33 years of age (SD = 11.38). Of the participants who indicated gender, 68 were male and 66 were female.

Procedures and Design

Participants were recruited to join a study that examines "Strategies to hire employees," and the scenario participants were presented with was identical to Experiment 1. Participants were randomly assigned to the imagine-ideal, imagine-variety, or control condition. The condition manipulation was identical to the manipulation used in Experiment 1.

Participants were then presented with five condensed versions of job applicants' resumes (*adapted from* Norton, Vandello, & Darley, 2004; *see* Appendix A for resumes). Each resume presented four pieces of information that indicated the job qualifications of the

applicant. The four qualifications presented for each resume were: (1) the age of the applicant, (2) the years of relevant work experience, (3) educational attainment, and (4) reason for seeking the job. The age of the applicant ranged from 28-32 years of age. Years of relevant work experience were either 4 or 7 years, but if the applicant had fewer years of experience then educational attainment was greater. For example, if the applicant had four years of experience, then the applicant also received a MBA in addition to a college degree. Applicants with 7 years of work experience only had a college degree. The reason for seeking the job was either to attain a higher salary or to relocate closer to family. All of the information presented for each resume was matched so there would be no reason to prefer one application over another.

The race of the applicant was manipulated through the presence of stereotypically White or Black names. The stereotypically White names used were Todd, Brad, Greg, and Jay. The stereotypically Black name used was Jamal. Previous research has shown that all of the names used were perceived as equally stereotypically White or Black names (Bertrand & Mullainathan, 2004). The placement of Jamal was equally balanced across all applications. Taken together, the qualifications of the applicant were matched across all five resumes and the presence of a stereotypical Black name was presented equally with each resume.

Participants were asked to rank order the five applicants from most desirable to least (*1 = best applicant, 2 = second best applicant, 3 = third best applicant, 4 = fourth best applicant, 5 = fifth best applicant).* Then participants were asked to determine how important certain criteria were for making their decision. The criteria were education, experience, age, reason for seeking a job, race of the applicant, and other factors (*1 = most important for making my decision; 5 = least important for making my decision).*

Finally, for exploratory analysis we again asked participants to complete the Symbolic Racism 2000 scale (Henry & Sears, 2002), the Motivation to Control Prejudice scale (Plant & Devine, 1998) and the Affect Misattribution Procedure (Payne et al., 2005). The effects of the experimental manipulation were not moderated by the individual difference measures of prejudice. Therefore, the measures will not be discussed here.

Chapter 8: Results

Ranking of the Black Applicant, Jamal

Our critical question was whether the ranking of Jamal for the position would differ depending on condition. Ranking Jamal first would indicate a favorable ranking in that Jamal was the best candidate for the job and should be hired. Alternatively higher number rankings of Jamal would indicate an unfavorable ranking in that Jamal should not get the job. Given that the resumes were assumed to be equally qualified for the job and the names were randomly assigned to each resume, unbiased hiring practices would lead to Jamal ranked first 20% of the time. We hypothesized, however, that participants asked to imagine their ideal applicant would be less likely to rank the Black applicant first as compared to the other conditions. That is, the racial disparity in hiring was predicted to be significantly larger in the imagine-ideal condition than the other conditions.

To test whether hiring practices differed by condition, we used an ordinal logistic regression. This model assumes that the outcome, the ranking of Jamal, is an ordinal variable (as opposed to continuous). We dummy coded the condition information and used these variables as predictors. The omnibus test of the model showed marginally significant results indicating that the manipulation had an effect on rankings of Jamal X^2 (2, 168) = 5.01; p = 0.08 (*for histograms of the ranking of Jamal by condition see* Figure 2).

Our planned contrasts first tested whether the imagine ideal condition was significantly different from the imagine variety condition. Consistent with our hypothesis, participants in the imagine ideal condition ranked Jamal significantly more unfavorably

(M_{rank} = 3.47, SD = 1.41) than participants in the imagine variety condition (M_{rank} = 2.88, SD = 1.38), X^2 (1, 108) = 4.93; $p < 0.05$. Rankings of Jamal did not significantly differ between the control condition (M_{rank} = 3.15, SD = 1.44) and the imagine variety condition (M_{rank} = 2.88, SD = 1.38), X^2 (1, 116) = 1.14; $p = 0.29$. However, the means were in the predicted direction such that participants in the control condition ranked Jamal more unfavorably than participants in the imagine variety condition. After ranking the applicants, participants were given the opportunity to describe the degree to which education, experience, and the race of the applicant influenced the participant's decision making process. We wanted to investigate whether participants thought these attributes were important factors that influenced their decisions. To investigate this, we ran a repeated measure ANOVA that compared the three justifications for hiring an applicant and the participants' condition information. We found an overall main effect for the importance of each attribution, F (2, 168) = 684.591, $p < .001$. This main effect was not qualified by a condition interaction which suggests that participants in all conditions were reporting the importance of each attribute in a similar manner. Through further investigation we find that although participants think both education and experience are important, the applicant's experience is more important ($M_{experience}$ = 4.29, SD = .76) than the applicant's education ($M_{education}$ = 4.09, SD = .88), F(1, 168) = 6.00, $p < .05$. In stark contrast, participants think that the applicant's race is significantly less important (M_{race} = 1.28, SD = .73) than the other two attributes combined F(2, 168) = 1237.60, $p < .001$. Therefore, it seems that participants do not think the race of the applicant is influencing their decision at all.

Chapter 9: Discussion

The results of Experiment 2 support our hypothesis that thinking of an ideal employee leads to racially biased hiring practices. Specifically, people asked to imagine their ideal employee, as opposed to imagining a wide range of good employees, ranked the minority applicant significantly more unfavorably. Contrary to our hypothesis, asking participants to imagine a wide range of good employees, as opposed to not being told any imagination instructions, did not lead to increased preference for the minority applicant. Therefore, the results of Experiment 1, the increased rate imagined Black employees in the imagine variety condition, in did not result in increased choice for a Black applicant in Experiment 2. This suggests that while imagining variety may lead to more diverse mental images, imagining variety would not be a useful intervention to increase diverse hiring practices.

Once again, the psychological processes that lead to the biased hiring behavior in this experiment are independent of personal attitudes toward Blacks. This suggests that even though an employer may not be explicitly or implicitly prejudiced, or may even desire to be egalitarian, the employer may still only hire White individuals because they closely match the imagined ideal employee.

Chapter 10: General Discussion

The current research investigated psychological aspects which may contribute to racial disparities in the labor market. Specifically, we were interested in whether mental images led to simply not considering racial minorities during hiring decisions, and effect that might be heightened by looking for an ideal candidate. This theory of narrow imaginations grew out of some serendipitous pilot data which asked participants to imagine their "ideal co-worker". In this pilot study we found that participants overwhelming imagined their ideal co-worker as a White individual.

In Experiment 1 we investigated whether imagining an ideal employee, as opposed to imagining a wide variety of good employees, led to the narrowing of imagined race of the employee. We found that imagining the ideal led to people only thinking of White employees and neglecting to consider other races. Therefore, imagining the ideal employee leads to a narrowed imagination of the races of potential employees.

In Experiment 2 we investigated whether imagining an ideal employee lead to racially biased hiring practices. We found that participants who were asked to first imagine their ideal employee later ranked the Black job applicant significantly more unfavorably than participants who were asked to imagine a wide range or good employees or participants who did not receive any imagination instructions. This suggests that the narrowing of imagination leads to racially biased hiring practices.

The findings of both experiments have serious implications for the racial disparities in the labor market. Specifically, narrow imaginations may be another contributing factor to

racially biased hiring. This finding is especially significant when considering the fact that trying to find an ideal employee is a common motivation for employers to have. However, simply being under this motivation can lead to employers neglecting to consider minority applicants for a job opening. Thus, biased hiring practices could be a result of actively rejecting minority applicants, or passively neglecting to consider minorities as potential employees.

In addition to thinking of an ideal employee, there are many other situations which would lead people to think of the ideal. For example, searching for the ideal neighborhood, the ideal health care provider, the ideal educator, or the ideal romantic partner may all lead to a narrowing of imagination. Thus, the findings on narrow imaginations may be more pervasive than the current results on hiring decisions suggest. Further research could be done to investigate whether the narrowing of imagination is a common occurrence outside the realm of occupational hiring.

The narrow imagination findings are very important when considering psychological factors of prejudice more generally. Previous research has demonstrated that the use of stereotypes simplify our complex world. Additionally, the stereotypes about the group can be automatically activated which allows people to save cognitive resources (Brewer, 1988; Fiske & Neuberg, 1990). Typically, these stereotypes are thought to be activated by external stimuli such as seeing an outgroup individual. The present research suggests that simply imagining the ideal of a category predisposes people to stereotype. My research suggests, for the first time, that thinking of the ideal magnifies the impact of stereotypical representations on decisions.

Limitations and Future Directions

Interestingly, mental images and biased hiring in the imagine ideal condition was not moderated by explicit or implicit attitudes toward Blacks. In order to avoid alerting participants to the fact that these studies were actually investigating racially biased hiring, we asked participants to fill out all of these measures *after* they had completed the rest of the experiment. A drawback with this order of appearance means that these measures could have been influenced by the imagination manipulation. Therefore, the absence of associations with prejudice measures should be interpreted with caution. In order to fully examine the relationship between mental images, biased hiring, and explicit and implicit attitudes toward Blacks, future research could assess explicit and implicit prejudice at least one week prior to the experiment.

The current research also only investigated the ideal imagines people created for high-ranking professional jobs. It may be that thinking of an ideal employee for other jobs that are stereotypically held by minority individuals would create very different racial exemplars. For example, thinking of the ideal janitor may bring a very different image to mind. Future experiments should investigate whether our ideal image changes depending on the status of the job. If so, it would be interesting to investigate whether this ideal imagine of a minority individual leads to biased hiring decisions in the opposite direction.

Chapter 11: Conclusion

The current line of research can help understand why racial disparities in hiring still persist. Racially biased hiring may, in part, be a result of passively neglecting to consider minority applicants instead of actively rejecting them. Moreover, when most people decide to hire a new employee, they are most likely imaging what their ideal employee would look and act like. Our data suggests that this process can lead to a narrow representation of good employees. Specifically, people are most likely imagining an employee that has a specific race, and in turn may neglect to consider the wide range of individuals who can do a job equally as well, regardless of their skin color. Therefore, having a narrow imagination may contribute to biased hiring decisions because people are narrowly searching and selecting candidates that best fit their mental representation.

The findings of this research could be applied to policy when addressing the racial gap in the labor market. Our data suggests that simply considering a wide range of good applicants *before* searching through resumes can lead to more egalitarian hiring practices. Future research should be conducted to fully investigate this and other strategies that can lead to broadening imaginations before hiring decisions are made. If a successful strategy is found to broaden imaginations, then work-place policies could be implemented that have employers broaden their imagination before viewing applications. This may reduce racially biased hiring practices.

Appendix A: Resumes

Imagine that you are the manager of a small marketing firm. Last year was a particularly good one, and you decide that it would be fruitful to your company if you hire another upper level employee to help with the current work load and to increase the size of your business. Based on a thorough analysis of your current firm, you decide to hire another Associate Marketing Analyst because a hire in this area has the potential to increase your company's earnings the most.

Being an Associate Marketing Analyst is a difficult job in a competitive market. You want someone with a strong knowledge of the field, and a strong educational background. Additionally, you need someone that exudes confidence in their skills in order to build your current clientele base. This position is very important to you and your company, so the new hire will receive one of the top 5 salaries in your company.

Below are summaries of five applicants for Associate Marketing Analyst. Please consider their qualifications, and then indicate the best applicant you would choose for the position by writing a "1" in the black next to that applicant's information. Then indicate your second, third, fourth and fifth choice for the position by writing a "2", "3", "4", or "5" in the black next to that applicant's information.

Choice #
	Jay is 28 years old, has 4 years of relevant experience in Market Analysis. He has a B.A. in English and a MBA. He is seeking this job for a higher salary.
	Todd is 30 years old, has 7 years of relevant experience in Market Analysis. He has a B.S. in Operations Research Finance. He is seeking this job for a higher salary.
	Greg is 31 years old, has 7 years of relevant experience in Market Analysis. He has a B.S. in Chemistry. He is seeking this job to relocate closer to his family.
	Jamal is 32 years old, has 4 years of relevant experience in Market Analysis. Has a B.A. in Economics and a MBA. He is seeking this job for a higher salary.
	Brad is 29 years old, has 7 years of relevant experience in Market Analysis. Has a B.A. in Art History. He is seeking this job to relocate back to his home town.

Now we are going to ask you some questions about how you made your decision about who was the best candidate for the job. Please let us know how important the following factors were in making your decision.

How important was the applicant's **educational background** in making your decision?

1. Not at all important for making my decision
2. Not important for making my decision
3. Somewhat important and somewhat unimportant for making my decision
4. Important for making my decision
5. Very important for making my decision

How important was the applicant's **experience** in making your decision?

1. Not at all important for making my decision
2. Not important for making my decision
3. Somewhat important and somewhat unimportant for making my decision
4. Important for making my decision
5. Very important for making my decision

How important was the applicant's **age** in making your decision?

1. Not at all important for making my decision
2. Not important for making my decision
3. Somewhat important and somewhat unimportant for making my decision
4. Important for making my decision
5. Very important for making my decision

How important was the applicant's **reason for seeking a job** in making your decision?

1. Not at all important for making my decision
2. Not important for making my decision
3. Somewhat important and somewhat unimportant for making my decision
4. Important for making my decision
5. Very important for making my decision

How important was the applicant's **race** in making your decision?

1. Not at all important for making my decision

2. Not important for making my decision
3. Somewhat important and somewhat unimportant for making my decision
4. Important for making my decision
5. Very important for making my decision

How important were **other factors** in making your decision?

1. Not at all important for making my decision
2. Not important for making my decision
3. Somewhat important and somewhat unimportant for making my decision
4. Important for making my decision
5. Very important for making my decision

How many applicants do you think were African American? *(Fill in the blank)*

How many applicants do you think were European or Caucasian American? *(Fill in the blank)*

Table 1.

Correlation between Mental Images, Implicit Attitudes, and Ranking of Jamal

(collapsing across condition)

Correlations

	Jamal	Mental White	Mental White	Mental Asian	Mental Black	Mental Native American	Implicit Positivity to Blacks
Jamal							
Mental White	-0.118						
Mental White	-0.047	0.075					
Mental Asian	-0.095	-0.046	.240**				
Mental Black	-0.065	.236**	.443**	.264**			
Mental Native American	-.153*	-0.042	.399**	.188*	.310**		
Implicit Positivity to Blacks	-0.121	-0.092	0.149	0.107	.175*	0.089	
Implicit Positivity to Whites	-0.099	0.013	-0.011	0.074	-0.025	-0.134	.450**

* Correlation is significant at the 0.05 level (2-tailed); ** Correlation is significant at .01 level

Figure 1.

Experiment 1:

Frequencies of Reporting Race by Condition

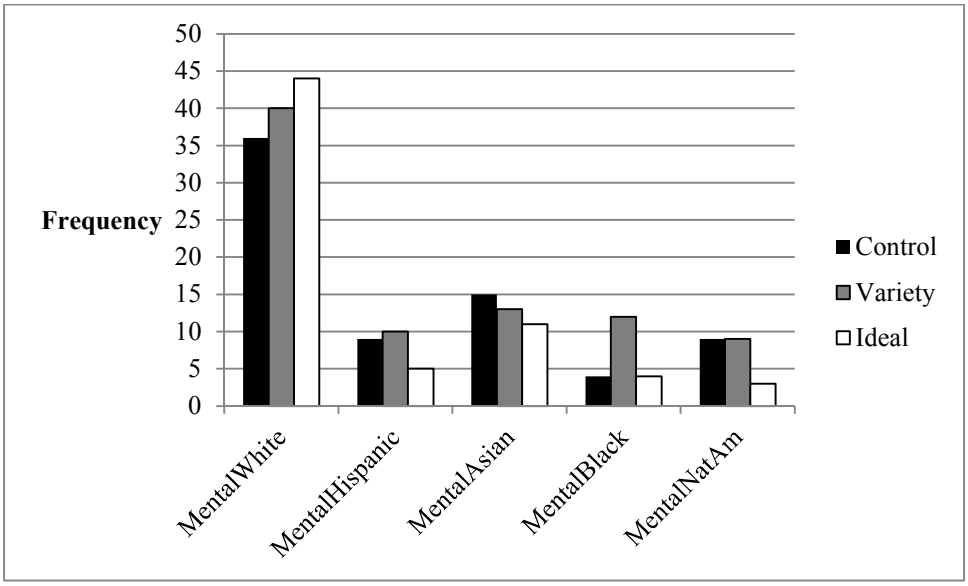
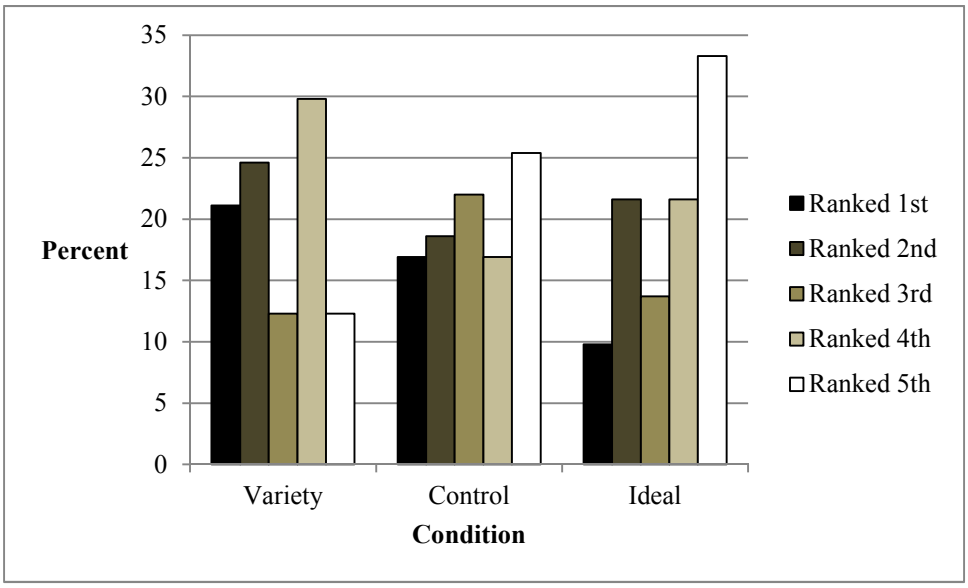


Figure 2.

Experiment 2:

Histogram of Ranking Jamal by Condition



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