

Effects of Race, Education Level, and Skin Tone on Perceived Leadership Ability

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Abstract

The present study focused on the relationships between race, level of education, skin tone, and perceived leadership ability. Eighty Tufts University undergraduates were presented with a photo of a White or Black male with either high or low education levels, and light or dark skin tone. The participants then read a racially neutral speech, and then completed a 13-item questionnaire that investigated the participants' perceptions of the targets' leadership abilities. It was predicted that there would be a significant main difference for race, skin tone, and education level. It was also predicted that there would be a significant interaction between all three variables. A mean difference was found for skin tone, in which the mean difference was higher for light skin tone than dark skin tone. A significant interaction was found between skin tone and level of education, in which only light skinned targets were evaluated differently based on education level. Light skin tone leaders with high education were evaluated more favorably than like skin tone leaders with low education level. The results provide evidence that will support future research in the topic of leadership and race that can help determine what attributes hinder leaders in their political pursuits.

Effects of Race, Education Level, and Skin Tone on Perceived Leadership Ability

Racial identity plays a major role in modern politics. Many questions regarding President Barack Obama's ability to lead the United States of America were raised before and since his election. Some argued that his racial identity would hinder his ability to lead the free world. Others debated that his lack of experience as a political leader, lack of experience with foreign relations, and unfamiliarity with war strategy would make him an inefficient leader. A leader's popularity affects his or her political career and the lives of his or her subordinates. Public opinion tends to rely on implicit and explicit analyses of leaders by their subordinates. Evaluating a leader's ability not only is detrimental to the leader's success, but also the level of support he or she will receive from his or her followers. It is, therefore, obvious that many variables will affect a leader's perceived leadership skills such as race, skin tone, and level of education. Supporting evidence suggests that others will perceive Black leaders with high education levels, and light skin tone as being the best leaders.

Leaders Are Only As Good As They Appear

Race, level of education, and various other variables are more salient than ever in today's society when subordinates and leaders themselves evaluate leadership abilities. There is a major distinction between actual leadership ability and perceived leadership abilities. Actual leadership abilities can be evaluated using standardized testing measures that produce scores that shows how strong a leader an individual is. There are various scales that accomplish this by evaluating, for example, an individual's dominance level, confidence, and other personal attributes characteristic of a strong leader. Actual leadership ability is usually evaluated using just the individual being tested, and is not influenced by others' perceptions or evaluations of the individual.

Many studies provide evidence that specific variables affect actual leadership ability. Astin (1993) deduced that there are various ways in which one can identify a leader. In his longitudinal study of 4,000 college students, Astin found that those who scored highest on his leadership skills evaluation measure were those who self-reported strong leadership ability, popularity, self-confidence in social encounters, and were elected to leadership positions. Schultz and Galbraith (1993) found that the four significant factors that determined the success of leadership training for older adults were motivation, confidence building, relevance, and awareness.

Perceived leadership ability is commonly evaluated using surveys, questionnaires, and other scales that are administered to relatively large groups of subordinates who rate their managers' and superiors' leadership abilities. When subordinate populations evaluate leaders, external influences may effect evaluations, such as fear of appearing racially biased, peer pressure, and fear of jeopardizing job security. Even though studies acknowledge these issues with evaluating the perceptions of leaders, only the studies that have employees rate their superiors seem to encounter this issue.

Racial Differences Lead to Varied Impressions

Some researchers have discovered that the perception of leadership skills is not due to the leader's personal qualities, but due to the race of the people perceiving and rating the leader (Foldy & Ospina, 2009). Other research concluded that race does not change how individual leaders manage their subordinates (Mount, Sytsma, Hazucha, & Holt, 1997), suggesting that managing style is a controlled variable that would not interfere with the study of other variables that may affect leadership evaluations.

The general consensus amongst researchers is that there is not a clear pattern of results in relation to race and perceived leadership ability, and that the results have been inconclusive (Bass, 1990, 2008). Certain variables such as the ways in which leaders address their subordinates have been shown to affect the subordinates' perceptions of leaders. One study found that leaders using "we" to refer to their subordinates, positively affected perceptions of that leader (Kark & Shamir, 2002). Loder (2005) said that Black leaders have a leadership dynamic that changes with different groups of people depending on the particular group's racial background, which allows the leaders to effectively lead more diverse groups of individuals.

How Being Black Improves Perceived Leadership Abilities

Fenelon and Megargee (1971) studied the situations in which Black and White women assumed the roles of leader or subordinate. The female participants were asked to complete a task in which each woman needed to assume either the role of leader or follower with these titles salient to the participants. Before participating in the experiment, each participant completed the 113-item California Psychological Inventory (CPI) Dominance scale (Do), and was sorted into one of four experimental groups based on the results. High Do scores indicated stronger leadership skills than low Do scores. Each treatment paired a high Do participant with a low Do participant, and the groups were two White participants, two Black participants, or one White and one Black participant. In 80% of the same-race groups, participants with high Do scores assumed the role as leader. In the groups with high Do White women and low Do Black women, only 33% of the White women assumed the role as leader. The groups with high Do Black women and low Do White women resulted in 73% of the Black women claiming the title of leader. These results suggest that race affects the selection of leaders when individuals have to openly declare their choice of leaders. Evaluated leadership ability became less important when

race was a salient variable. These findings that Black women were “favored” over White women in leadership roles, contradicts a lot of evidence on racial prejudice.

Brooks and Jean-Marie (2007) found that in high-poverty, high-minority urban high schools in the southeastern region of United States, school leadership is intrinsically divided into two separate leadership cultures: a Black and a White faction. Since the study revealed the existence of distinct racial leadership groups, it is possible that individuals within the same group would show an affinity for their own leaders as opposed to their assessment of the leadership qualities of the other group’s leaders. Thomas and Littig (1985) found that race had a significant correlation to leadership typography, which further supports the idea that leaders may be evaluated differently based on their membership to a specific racial group, possibly due to the fact that each group has its own salient style of leadership.

The evidence gathered to support the concept that race changes how a leader is perceived is sound and diverse. One study found that Black leaders were rated more positively than White leaders, and that Black leaders are judged more on interpersonal factors than on content or task-related factors than White leaders (Foldy & Ospina, 2009). These results suggest that if a Black leader has strong personal qualities that affect interpersonal perceptions such as being affable, compassionate, well spoken, and confident, then the leader will be rated more positively.

In one study, Black leaders were rated more positively than White leaders by their Black subordinates, but White subordinates showed no preference for their leaders based on the leader’s race (Mount, Sytsma, Hazucha, & Holt, 1997). These findings are quite significant considering certain subordinate demographics. For example, if a population of a Black leader’s followers were all White except for one Black follower, the leader should theoretically be rated more positively than a White leader with the exact same qualifications and personal qualities. In

essence, the presence of any Black subordinates supporting a Black leader would make the leader have a better evaluation than if the subordinates were only White.

Liberal White subordinates have also been shown to rate Black leaders in a unique way. One study showed that Black managers were rated more favorably by more liberal White subordinates than by less liberal White subordinates (Richards & Jaffee, 1972: as cited in Bartol et al., 1978). In a predominately liberal environment such as a liberal arts college, the presence of more liberal White subordinates would increase the overall ratings of their Black leaders compared to environments with Black leaders where the White subordinates were less liberal.

A similar phenomenon occurs when Black leaders in mostly White environments stress their social identification as being an executive as opposed to emphasizing their membership to their racial group. In this situation, Black leaders are seen more positively by White subordinates than they are by Black subordinates (Livingston & Pearce, 2009). It is reasonable to state based on these findings that an environment guided by a Black leader who identifies as an executive, in which more White than Black subordinates exist, the leader will be perceived more positively because there are fewer Black subordinates available to perceive the leader through a negative lens.

When a salient issue arises that disproportionately affects people of color, these leaders are deemed more legitimate and are more frequently authorized to lead (Lee, 2008). It was also discovered that Black leaders are able to transform their racial group's unique set of hardships into means in which they can create positive change (Alston, 2005, p. 677). Bell (1990) concluded that leaders of color must be bi-culturally fluent in order to connect with members of their own racial groups and also members of the White majority group. This bi-cultural fluency is a unique strength that is not shared by leaders who are in the White majority group. In other

words, a leader's awareness of others' perceptions of himself or herself allows the leader to better guide his or her subordinates in a constructive, positive direction.

One study found that Black managers were lower in power motivation than White managers (Watson & Barone, 1976; as cited in Bass, 2008), but when the Black leaders were supervisors, the Black leaders were rated higher in motivation to manage White colleagues (Miner, 1977; as cited in Bass, 2008). Another study found that Black leaders were more considerate than their White contemporaries (Adams, 1978; as cited in Bass, 2008). Other studies have shown similar results such as Black CEOs being rated as being warmer than White CEOs (Livingston & Pearce, 2009). The results of these studies showed how different impetuses and character attributes of leaders of different races cause the leaders to be viewed by others in different ways. In short, a leader's race does change how others perceive his or her leadership abilities.

Black Leaders and Negative Evaluation Evidence

Along with evidence supporting the idea that Black leaders are perceived as better leaders than White leaders, and evidence showing no correlation, there are many studies suggesting the opposite effect of race on the perception of leadership ability. One study found that Black managers received lower ratings than White managers (Bartol, Evans, & Stith, 1978). Richards and Jaffee (1972) found that Black managers lack support and appreciation from their superiors. It was also discovered, in contradiction to evidence collected by Mount et. al (1997) and Livingston et. al (2009), that subordinates of Black managers challenge and undermine the managers' leadership and also rate these leaders more negatively (Sackett & DuBois, 1991).

There are many studies available that offer contradictory or inconclusive evidence regarding these variables. For instance, one study found that Black people have lower cognitive

ability test scores even when no test biases were found (Bass, 2008). Bass (2008) explained that this is the reason why there are fewer Black leaders. The same researcher, in contradiction to his original statement, later wrote that 25% of Blacks are still higher in tested intelligence than 50% of Whites, and a substantial number of Blacks with the necessary cognitive skills for good leadership are available for leadership positions.

Bass (1990) re-introduced the term “stress created by marginality” from earlier studies on race and leadership. This particular type of stress was thought to confine leadership ability for Black leaders. This stress comes from the fact that Black leaders are members of a minority racial group, and the stress of not being a member of the majority White group could cause extra stress for that particular leader attempting to lead all racial groups.

Bass (2008) reasoned that the lower quality education available to most Black individuals makes the cognitive ability test scores resistant to change. He stated that Black candidates are at a disadvantage even when Black and White individuals who seek the same positions for employment or admission to schools have the exact same credentials besides cognitive ability test scores. This conclusion implies that racial circumstances exist such as poorer school systems that give Black people disadvantages when competing against White people with the same qualifications. Van Knippenberg and Hogg (2003) said that the most prototypical members of a group are authorized to be the leaders. This trend is particularly salient when all the members of a particular group from which a leader is chosen have a strong sense of group identification. When a group' identification is defined by an initiative that transcends race, such as environmental protection, a leader's race may not be a factor in leader selection.

Black, Fishman, and Gitter (1975) found that perceived leadership ability was not affected by race. Instead, the results indicated that the perception of leadership ability was due to

a leader's use of non-verbal communication versus verbal communication. Smith (1952) stated that group size significantly alters the characteristics that make a leader superior, which may create a more prominent effect on perceived leadership abilities than a leader's race. A.W. Astin (1993) found that leaders in college utilized different leadership styles. These results support the concept that leadership skills are evaluated based on variables dependent on leadership styles rather than race.

Making Conclusions About Race and Perceived Leadership Ability

Many studies offer evidence suggesting that being Black improves evaluations of leadership ability. However, other evidence refutes these findings. The evidence that suggests Black leaders are more positively evaluated than White leaders was gathered from studies that are more diverse and thorough than studies that found contradictory evidence. This is because the evidence that found Black leaders were evaluated as worse than White leaders was mostly obtained through employee evaluations of their managers, in which many other factors could have effected the employees' evaluations. The studies that found that Black leaders were perceived as having better leadership abilities were conducted using many more experimental procedures such as laboratory data collection, and having individuals in many different environments evaluate leaders. These positive evaluations may be attributed to the participants' fears of appearing socially prejudiced. However, since so many of these studies found better evaluations for Black leaders using many different experimental methods, this "social desirability" phenomenon can not be the most influential reason that participants rated Black leaders more positively.

Are Intelligent Leaders Better Leaders?

Along with race as a variable affecting perceived leadership ability, a leader's academic credentials and level of intelligent has been shown to enhance his or her perception by subordinates. Clark (1975) said that a leader must have certain base resources in order to be an effective leader. One of the base resources described was verbal skill in reference to inherent intellectual properties that a leader commands. Avolio, Walumbwa, and Weber (2009) noted that a successful leader must have certain values such as achievements that the subordinates will admire. This article further described that followers are attracted to leaders who are ideal members of certain groups to which the follower belongs or wishes to belong. Avolio et al. also mentioned that a leader must intellectually stimulate his or her followers. Other researches have found that a leader's level of intelligence affects evaluations of leadership ability. Goethals (2005) stated that one of the most important qualities of a leader is his or her intelligence. Goethals used past United States presidents such as Bill Clinton as examples of a leader's intelligence as a means to identify effective leadership skills. In the same article, the extreme intellectual properties of many of the past presidents are mentioned. The presidents' intellects were evaluated based on Simonton's Intellectual Brilliance factor. Some of the most intellectual presidents included Abraham Lincoln, who had a law career before becoming an elected official. These examples suggest that intelligence plays a role in the perception of strong leadership abilities. A salient means of identifying one's level of intelligence is whether or not one received a degree in a higher educational level than others.

With multiple studies showing that race has a significant affect on perceived leadership abilities, and that a factor used to identify strong leaders is the leader's level of intelligence, it is important to discover even more qualities that affect a leader's perceived abilities.

Skin Tone: A Provoker of Automatic Judgments

Afrocentric features have been frequently shown to effect individual's perceptions of others. These features have varying effects on perceptions dependent on the level of one's Afrocentric features, which include facial structuring, skin tone, eye color, and other variables. One study that focused on this particular topic suggested that a reason many Black CEOs are so successful is because they have certain physical features that lower the threat to others outside their racial group. This two-part study (Livingston & Pearce, 2009) focused on the disarming mechanism of baby-faceness, which is a physical feature certain people possess that is characterized by a young looking face.

In Study 1, participants were presented with a cropped photograph of a Black or White CEO from a fortune 500 company showing only the targets' heads. The photos were edited to be grayscale and the backgrounds were removed to eliminate extraneous variables. Participants were told they would be rating the physical appearance and personality traits of targets' faces in a collection of photographs. The participants were informed beforehand that past research showed that people were able to make accurate judgments about others only using others' facial appearances. Using a 4-point scale, the participants then rated 40 photographs of Black and White CEOs in random order on baby-faceness, traits related to interpersonal warmth, and leadership competence.

In Study 2, the participants were first trained to recognize features that make a person appear baby-faced, and were also informed that baby-faceness is not racially specific, is not specific to gender, and is not specific to age, but that it only pertains to the structure of the face. The participants then rated a series of photographs the same way as study 1, but they also had to rate the targets' physical attractiveness, perceived age (open ended), and skin color. Then the

participants were informed that the targets were real employees of U.S. corporations, and that the targets held positions ranging from trainee to CEO. The participants were then asked to estimate how much money the targets made each year. The results of the study found that baby-faced Black CEOs led more prestigious corporations and earned a larger salary than matured-faced Black CEOs. This effect was attributed to the disarming abilities of baby-faceness. According to the results, the same pattern did not exist for White CEOs.

The researchers of the same study described certain traits that act as disarming mechanisms for Black leaders. These traits included: impeccable credentials, competence, tireless diligence, cultural knowledge, manner of speech or dress, and mixed racial ancestry. It can be surmised that physically salient traits that arise from mixed racial ancestry includes variations in skin tone. Light skin tone would possibly make a Black leader better identify with the dominant White group, and, therefore, would be perceived as a better leader. Dark skin tone would, perhaps, make a Black leader more negatively perceived by the dominant White group. Livingston and Pearce (2009) said that the threat caused by Black leaders is attributed to these leaders being members of the out-group and having power, as well as the threat of a “less-diffuse-status individual holding a hegemonic position” (p. 1234). The researchers go on to explain that more powerful Blacks are more threatening than less powerful Blacks.

In a chapter entitled “Social Categorization and Beyond How Facial Features Impact Social Judgment”, from the book *First Impressions*, Maddox and Dukes (2008) introduced, described, and discussed many studies involving the effects that facial features have on social judgments. One of their main conclusions was that “stereotyping and prejudice based on facial features...is independent of categorization or category membership” (Maddox & Dukes, 2008, p. 218). They went on to discuss how the sensitivity to facial features can have such a strong

influence on perceptions that facial features can reduce the impact of “diagnostic behavioral information in the use of stereotypes” (Maddox & Dukes, 2008, p. 218). They also said that feature-based stereotyping is a very efficient process “with potentially severe consequences for its targets” (Maddox & Dukes, 2008, p. 218).

These conclusions provide a general consensus of multiple related studies that stereotyping based on facial features transcends group membership, can lessen the extent to which an individual uses the target’s other information or attributes when evaluating the target, and that people use this process of stereotyping based on a target’s facial features very quickly, efficiently, and automatically. These snap judgments about an individual based on his or her facial features cause the individual’s other attributes and qualities to be less salient. Since these judgments are so efficient, an individual may be judged as being drastically different than he or she is in reality just because of the individual’s facial features.

Other studies describe the effect physical features including Afrocentric features and skin tones have on the perception of Black individuals. Blair, Judd, and Fallman (2004) used four different experiments within one study to thoroughly conclude that targets with high Afrocentric facial features were judged to have attributes stereotypic of an African American. These results transcended target race, because even European Americans with high Afrocentric facial features were judged as having the same stereotypic African American attributes as the African Americans with high Afrocentric facial features. These results were consistent when the participants were distracted by a secondary task, told to avoid stereotyping in general, told to avoid stereotyping based on Afrocentric features, and after the participants exhibited a consistent ability to identify Afrocentric facial features that could be used as a means of applying stereotypes to a person. No matter what variable was manipulated in the four experiments, the

participants still resorted to using Afrocentric facial features when judging the presented targets. Afrocentric features include level of skin tone, and because these findings were so significant they can support the idea that variables such as skin tone affect the perception of people of different racial identities, which includes the perceptions of leaders and their ability to lead.

Dukes and Maddox (2010) did an experiment that showed how the salience of a target Black male's Afrocentric features affects the ways in which these targets are judged by participants. When a target had high Afrocentric features, the participants gave consistent evaluations of the target no matter how stereotypically Black the target was dressed. When a target had low Afrocentric features, the participants changed their evaluations based on how stereotypically Black the targets were dressed. This experiment further supports the concept that skin tone effects how an individual is perceived. In this particular experiment, the results concluded that secondary phenotypic variables are only considered when evaluating people with low Afrocentric features. Participants were not influenced by secondary variables when evaluating individuals with high Afrocentric features, suggesting that people have preexisting, set opinions of individuals when they have dark skin tone.

The Present Research

The current study strove to uncover specific variables that affect the perceived leadership ability of a leader. With many studies supporting the effects of certain variables on leadership, it was deemed worthwhile to investigate the possibility of interactions between a leader's race, level of education, skin tone, and the perception of the leader's leadership abilities. Based on the literature reviewed, it was predicted that the experiment would yield a main effect of race, a main effect of educational level, a main effect of skin tone, and a significant interaction between race, level of education, skin tone, and perceived leadership ability. For the main effects, mean

differences were expected to be higher when the leader was Black vs. White, had a high education level vs. low education level, and had light vs. dark skin tone. For the interaction it was predicted that Black leaders with high education level, and light skin tone would be perceived as having the best leadership abilities.

Method

Participants

Seventy-nine undergraduate students from Tufts University and one recent Tufts University graduate participated in the study. 18 of the participants were first or second year psychology students and were recruited for the study via the Internet based Sona Systems Ltd. experiment management system. These students received credit for their introductory psychology classes for their participation in the study. The experimenter recruited the other 62 participants with the assistance of seventeen first and second year Tufts University undergraduate students. All eighty participants were volunteers, received no compensation for their involvement, and were not informed of any aspect or goal of the study before participating. The subjects ranged in age from 18 to 23, were college educated, and thus represented a particular demographic of the general world population.

Design

This study was a 2 x 2 x 2 between-subjects factorial design. There were three independent variables in this study: race, education level, and skin tone. Each independent variable had two levels. Race was divided into Black and White. Education level was divided into high school diploma and PhD. in mechanical engineering. Skin tone was divided into light skin tone and dark skin tone.

Materials

Two unique computer generated headshots of one Black and one White male were created using FaceGen software. One male was designed with Afrocentric features, and the other with western Eurocentric features. Afrocentric features include darker skin pigmentation, dark iris color (i.e. black or brown), broad nose structure, larger and broader lips, and rounder chin structure. Western Eurocentric features include lighter skin pigmentation, narrow nose structure, light iris color (i.e. blue or green), and sharper chin structure. A light skin tone and a dark skin tone variation of each of the two males were created, which allowed for four possible pictures of male leaders. Two copies of each picture were printed on individual sheets of paper, one picture per page, and each with three lines of information added below: “Name”, “Age”, and “Education”. All of these sheets named the leader “John Smith”, and each sheet said that John Smith was 50-years-old. Each sheet indicated for “Education” that John Smith held a high school diploma or that he held a Ph.D. in mechanical engineering (see Appendix A).

The researcher wrote a short word-processed speech that urged an unnamed local community to donate a small quantity of their time in order to help install solar panels in the town in an effort to lower the town’s output of pollution, save money, and work together as a community (see Appendix B). The speech informed the community members that no previous experience was necessary, as there was on-site training provided. In addition, the speech was gender, race, and age neutral. The neutrality of the speech was confirmed via oral reports made by the members of a pretest group.

The researcher created a 13-item questionnaire with each question evaluated based on a seven-point Likert scale in which “1” corresponded to the most negative rating, and “7” corresponded to the most positive rating of the leader’s personal qualities and leadership skills.

The first 12 questions asked the participants to evaluate the target's confidence, determination, popularity, affability, familiarity with the initiative, preparation for the initiative, listening ability, effectiveness as a mobilizer through speech, the participant's willingness to support the initiative, the target's qualification for leading the initiative, the overall rating of the leader, and the importance of green initiatives to the participant. The last question asked the participants whether or not they wanted to be led by the target leader or by another leader with different qualifications (see Appendix C).

A pretest group comprised of 17 Tufts University undergraduates between the ages of 18 and 19 completed manipulation checks. These individuals were asked how attractive the targets appeared to them, the responses showed that the pretest group found the targets to be of similar attractiveness. Similar target attractiveness was achieved through the use of the face generation software that allows for the attractiveness of the targets to be normalized. The pretest group was also asked if they could identify the race of the targets. All members of the pretest group were able to identify the race of the targets.

Procedure

Upon entering the experiment site, each participant was asked to take a seat in one of three lab cubicles. They were handed informed consent forms with a pen, and told to carefully read the form, sign it if they were consented to participate, and then hand the form to the experimenter. The experimenter then entered the cubicle and provided oral instructions to the participant as to the study's procedure. These instructions indicated that the study was called "Evaluating Community Leaders", and that the participants were going to be handed a photograph of a community leader with some information about said leader. Next, the researcher instructed the participant to study the photograph and information, read the short speech the

leader gave about a certain initiative, and then answer the questionnaire. When the instructions had been given, the researcher then handed the participant a packet of four sheets of paper that included all of the aforementioned study materials. Each participant was randomly placed in one of eight experimental groups, which were separated based on the leader information sheet with which the participant was provided.

After completing the study, the participants were all handed a debriefing sheet and told to contact the experimenter with any further questions regarding the study if they chose to do so at a later date. The debriefing sheet indicated that deception was used by not disclosing that the study involved race as a variable.

Overall evaluation of leadership ability (dependent variable) was operationalized as being a measure of a general trend of high Likert scale scores or low Likert scale scores for each treatment. Overall leadership skill was determined by creating a dependent variable labeled the “evaluation index” that combined the first 11 items of the questionnaire into one overall dependent variable capable of showing the general trend of a participant’s evaluation of leadership ability. The evaluation index was analyzed using a between-subjects univariate ANOVA. Independent samples t-tests were used to analyze data between skin tone and education level. A second between-subjects univariate ANOVA was completed that analyzed participants’ responses to item 13 on the questionnaire, which asked whether or not they would rather the initiative described in the speech be led by a different individual with different qualifications. The dependent variable in this between-subjects univariate ANOVA was called “same leader”.

Results

All statistical analyses were evaluated using an alpha level of 0.05. A number of univariate ANOVAs were completed for each of the questionnaire’s 13 items. No main effect

was found for race, skin tone, or education level. Also, no significant interaction was found between race, skin tone, and education level. These results supported the study's null hypothesis, because none of the predicted main effects or interactions were observed upon statistical analyses of the data.

Evaluation Index

A new dependent variable (evaluation index) was created to provide a more stable and valid measure of the general concept of a good leader, which included the elements evaluated by the individual items of the questionnaire. The evaluation index was comprised of items 1 through 11, because item 12 did not refer to the target, and item 13 was not answered via Likert scale. Combining these items was shown to be reliable using Cronbach's alpha, $\alpha = 0.841$. When a between subjects univariate ANOVA of the evaluation index was completed, it was revealed that there was a significant interaction between skin tone and education level, $F(1) = 4.92, p = .030$ (see Figure 1). This result prompted further analyses using independent samples t-tests in order to find where the significance lied. The analysis showed a significant mean difference existed between education levels for light skin tone targets ($t(37) = -2.11, p = .042$ (two-tailed)), but not for dark skin tone targets ($t(39) = .973, p = .337$). Targets with light skin tone and high education level were evaluated more favorably ($M = 4.83, SD = .809$) than the targets with light skin tone and low education level ($M = 4.30, SD = .757$). Though not significant, targets with dark skin tone and low education level were evaluated slightly more favorably ($M = 4.65, SD = .762$) than the targets with dark skin tone and high education level ($M = 4.43, SD = .661$). In effect, education level did not influence evaluations of dark skin tone targets.

These results suggested that the evaluation a target with light skin tone depended on the target's level of education. It also showed that the evaluation of a target with dark skin tone did not change based on the target's level of education.

Same Leader

Because it was measured on a different scale, the "same leader" item on the questionnaire was analyzed separately from the other 11 items that comprised the evaluation index. The results of the between-subjects univariate ANOVA showed a significant interaction between skin tone and education level when examining ratings of the same leader item ($F(1) = 7.60, p = .007$). This suggested that the participants' choices of keeping or replacing the target was affected by the target's skin tone and education level.

Independent samples t-tests were conducted to find where the significance lied. The results of these t-tests showed that there was a significant mean difference between education levels for light skin tone targets ($t(37) = -3.01, p = .005$ (two-tailed)), but not for dark skin tone targets ($t(39) = 0.895, p = .376$) (see Figure 2). Targets with light skin tone and high education level were favored to remain as leaders ($M = .650, SD = .489$), and targets with light skin tone and low education level were favored to be replaced by different leaders ($M = .211, SD = .419$). Although the mean difference between dark skin tone and education levels was not significant, targets with dark skin tone and high education level ($M = 0.4545, SD = 0.50965$) were preferred to remain as leaders, and targets with dark skin tone and low education level ($M = .316, SD = .478$) were preferred to be replaced with different leaders.

These results showed a statistically significant interaction between skin tone of the target and the target's education level where the participants favored keeping the target leader when the leader had light skin tone and high education level, whereas the participants favored replacing

the target leader when the leader had light skin tone and low education level. The results also showed that participants did not have a preference for keeping or replacing a leader with dark skin tone based on the leader's level of education.

Discussion

Accuracy of the Present Study Predictions

The results of the present study do not support the prediction that race would effect the perception of leadership abilities. There was no significant main effect found for race, nor was there a significant interaction found between race, skin tone, and education level. Also, contrary to the predictions, no significant main effects were found for skin tone or education level. Even though the predictions regarding race, skin tone, and education level were refuted after univariate ANOVAs were conducted for each of the 13 items, a significant main effect was found for skin tone when examining ratings of the leader via the evaluation index and the ratings of the leader for the same leader item. Although unexpected, the significant findings that skin tone and education level interacted to effect perceived leadership ability, showed that an interaction existed between two of three variables manipulated in the study, which validates the general conjecture that an individual's phenotype affects the perception of that person.

General Discussion of Results

Contrary to predictions, the results from the present study showed that race, education level, and skin tone did not independently affect the perception of a leader's ability. The results also showed no significant interaction between target race, education level, and skin tone on the perception of leadership skills. While not predicted, the results showed that target skin tone and education level affected the perception of the target's leadership abilities in a significant interaction. Targets with light skin tone and high education level were perceived by the

participants as being better overall leaders than targets with light skin tone and low education level. There was no significant difference between targets with dark skin tone and high or low education levels.

The decision on whether or not to keep the same leader based on his education level differed only when the leader had light skin tone. When the target had dark skin tone, the differences in education level did not matter to the participant. When the target had light skin tone and a high education level, the participants favored keeping the same leader. When the target had light skin tone and a low education level, the participants wished to replace the leader.

The results suggest that one's perception of leadership abilities is augmented by a secondary cue, such as education level, when a leader has light skin tone. In other words, Black and White leaders with light skin tone are perceived as being good or bad leaders based on personal attributes such as their level of education. This is a substantial finding, because it shows that a leader's non-phenotypical characteristics such as intelligence are used to evaluate the leader's abilities. The outward appearance of a leader is ignored when the leader has light skin, or when the leader's outward appearance is not as closely associated with negative stereotypes. However, the results show that leaders with dark skin tone are evaluated similarly no matter their education levels. This finding suggests that the personal strengths and weaknesses of a leader have no impact on the perception of that leader when the leader has dark skin tone. This suggests that people already have a fixed opinion about a leader's abilities when they are presented with the leader's dark skin tone. When a leader has dark skin tone, the observer will rate the leader using a preexisting general opinion of how well leaders with dark skin tone lead. The observer's opinion is not changed when provided with new information about the leader with dark skin tone.

Conversely, an observer is open-minded when introduced to a leader with light skin tone. These observers do not have a preexisting opinion of a leader's leadership abilities when the leader has light skin tone, but their ratings of the leader's abilities change based on the leader's mental attributes. Therefore, there exists a preexisting bias whereby leaders with dark skin tone are unable to gain or lose positive or negative perceptions based on the leaders' education levels. Light skinned toned leaders are rated based on qualifications and no preexisting bias exists towards leaders with light skin tone.

Studies that Support the Findings

The significant interactions found in this study support the findings of Blair et al. (2004) and Dukes and Maddox (2009). Blair et al.'s study consisted of four experiments. The first experiment explored the effects of Afrocentricity on assigning stereotypical (positive or negative) or counterstereotypic (positive or negative) attributes to targets with low or high levels of Afrocentricity. The first experiment also studied the effect of the participants' level of cognitive resources on how they assigned the stereotypic or counterstereotypic attributes to the targets. This was accomplished by having the participants engage in a secondary activity that commanded a participant's high or low attention. The second experiment warned the participants to avoid stereotyping while evaluating the targets. The third experiment warned the participants about how Afrocentric features could effect their evaluations of the targets. The fourth experiment also warned participants how Afrocentric features could influence their judgments of targets, and the participants were also able to consistently and easily identify Afrocentric features that were relevant to the study.

The general findings of these experiments were consistent. They showed that when a target had higher Afrocentric facial features, the participant evaluated the target as more likely to

possess stereotypically African American attributes. This was true for both European American and African American individuals who had high Afrocentricity. The targets with lower Afrocentric facial features in each of the two racial groups were perceived as having less stereotypical African American attributes. These results were consistent across all of the four experimental treatments. Even when the participants were warned about Afrocentric facial features ability to change one's perception of an individual, and the participants accurately identified the facial features that could be categorized as Afrocentric, the participants still evaluated the targets based on Afrocentric facial features.

The significance of Blair et al.'s study as it relates to the current study is that variations in Afrocentric features change how an objective person applies stereotypical attributes to an individual. Skin tone can be viewed as an Afrocentric feature, and as Blair et al.'s study suggests, Afrocentricity overrides race as a variable in assigning specific attributes to individuals. In other words, race does not effect the perception of a target, but perception is affected by the skin tone of the target. A White target with dark skin tone would be assigned similar stereotypically African American attributes as a Black target with dark skin. These studies found that greater level of Afrocentricity affects the way people are perceived. Light skinned toned targets (low Afrocentricity) were consistently rated more positively than dark skinned toned targets (high Afrocentricity).

In a study conducted by Dukes and Maddox (2010), similar results were found that lend support to the findings in the current study. Their study showed that physical features effected the impressions of Black and White targets when the features conformed to racial stereotypes. They also found that low Afrocentric Black targets' clothing styles affected how they were evaluated. However, participants were not influenced by the targets' clothing styles when they

judged the high Afrocentric Black targets. These results are consistent with the results of the current study, because they both show that targets are evaluated differently based on a second variable (education level, clothing style) when they have low Afrocentricity (light skin tone). They also both show that targets with high Afrocentric features (dark skin tone) are evaluated without the influence of another present variable (education level, clothing style).

Design Problems and Limitations

The study's predicted results were not supported, and the significant results obtained were unexpected. The reasons for incorrect predictions could have resulted from faulty interpretations due to the small amount of available experimental evidence regarding personal attributes and leadership ability. Also, the body of work in this field has been notably inconsistent due to this lack of evidence. The previous studies that had thorough experimental methodology used as supporting evidence for the current study's predictions yielded more convincing arguments than the refuting evidence, but this may have only been due to the lack of experimental thoroughness of the studies that provided refuting evidence. The studies that refuted the current study's predictions could have caused the predictions to be different, if the arguments within those studies were more convincing.

The lack of significant results in the current study could also be due to multiple study limitations. Measurement error may have caused issues in determining how the participants perceived the leader, because the questionnaire may not have accurately translated the participants' actual feelings about leaders from their internal opinions to the Likert scale evaluations. This would have made the accuracy and consistency of the experimental measurements have too great a margin of experimental error.

The variables most responsible for the study's low power involved the participant population. The sample size was much too small, which is mainly due to the time constraints determined by a two-semester study, and the low availability of potential participants at a small private university. If this sample size were drastically increased, the power would also increase.

The main sources of the general lack of significant results may be traced back to the procedure of the study, because the participants were not presented with enough evidence of the targets' races, education level, and skin tone. This could have been prevented if a long paragraph was included under the targets' pictures that had the target's group identification reinforced through short anecdotes relating to the target's race and education level. However, without manipulation checks conducted during the study, these claims can only be regarded as unsubstantiated speculation.

If more extensive pretest data was collected using recorded documentation instead of oral reports, the results may have been more significant. This would have affected the results, because such pretest measures would have ensured that the materials used in the study most accurately represented the selected independent variables. If some materials were shown to lack validity in representing the independent variables, then new materials could have been pre-tested and implemented if found to be valid. Also, with more extensive pre-testing, multiple variations of the materials could be tested for validity at one time, so that the best materials would be selected for use in the study. In the present study, since only one variation of the materials was pre-tested and found to be valid, there was no knowledge as to whether or not other materials would have been found to be more valid. There was also no way of differentiating between levels of the quality of the materials, if more were pre-tested, because the oral evaluation process is completely objective and imprecise. In other words, the pre-test would have to be done via

questionnaire in order to best decide which materials to use in the study if more than one choice of materials were available.

Although the study might not have had the highest possible internal validity, the study was still internally valid because the pretest group's oral evaluations of the study materials unanimously confirmed that the target's race and skin tone were easily identifiable, targets of both races were equally attractive, and that the speech was gender, race, and age neutral. Also, significant results were found in regards to a significant mean difference for skin tone and a significant interaction between skin tone and education level, which shows that the independent variables and evaluation criteria were valid in producing some significant results that confirmed some of the original predictions. Since the pretest group's oral reports clearly showed that the variables were easily distinguishable, and there was a main effect for one of the independent variables when the evaluation index and same leader were examined, the variables used in the study were valid. No validity would have occurred if no significant results, expected or unexpected, were found.

Improvements for Future Researchers and Future Directions for Related Studies

There are ways in which the current study could be augmented in order to obtain more significant results in future study trials. Along with the increased magnitude of participants, the diversity of participants' demographics could also be increased. Individual quotas of participants based on demographic information such as race, age, gender, socioeconomic status, and education level could make the results more valid and generalizable.

The main goal for future researchers would be to increase the current study's internal validity and to replicate the existing findings regarding skin tone and education level. If the study was run again with manipulation checks, these manipulation checks could be used to determine

which extraneous and confounding variables interfered with the study's internal validity. Once these variables are isolated, the study's methods could be augmented to strengthen the efficacy of the existing manipulations. This could be accomplished by removing the influence of the extraneous and confounding variables on the participants' evaluations of leadership ability. By changing the experiment in this way, the results may be more consistently replicable, and the existing findings regarding skin tone and education would be more readily substantiated.

In order to further strengthen the finding that there was a significant interaction between skin tone and education level on perceived leadership ability, more independent variables should be introduced into the study design in the future. These new variables would have two levels like the independent variables in the current study, and these new variables would be presented on the page with the information about the target. The new variables could be the target's age, marital status, socioeconomic status, hobbies (stereotypically Black or White), and sexual identity. The introduction of these new variables would strengthen the finding that secondary variables such as education level change the perception of a leader only when the leader has light skin tone. The use of this many variables may hinder the ability to determine each variables individual influence, and therefore future studies could opt to run multiple experiments that each test one or two of the different variables using the same general testing format. Then follow-ups studies could select the variables that yielded significant results and run experiments using those variables to reinforce the findings that they significantly effect perceptions of leadership ability. This method of using multiple experiments would entail recruiting many more participants, so this method should only be implemented if appropriate numbers of participants are available.

If the same results were found from a study adding these new variables, a whole new dimension of implications would be created that would be able to open new avenues of research

that would view targets' subtle phenotype differences as ways to affect changes in judgments of others when many other important personal attributes of the target are salient. If these important and significant attributes were ignored when the target has dark skin tone, then there would be clear evidence of the existence of a negative bias towards targets with dark skin tone, since these attributes that define the target would not be acknowledged by the participant during his or her evaluation.

Future research needs to be conducted that will explore whether or not dark skin toned leaders can do something to make people evaluate their abilities based on their accomplishments and not just by their skin tone. This would allow the dark skin toned leaders to be on an even level with light skin toned leaders and would allow for true democracy, unbiased by a leader's phenotype to exist.

Implications

With the current results, the implications are vast in the world of leadership perception. The significant interaction shows that light skin toned leaders with better personal achievements such as higher education are perceived as being better, more qualified leaders than leaders with light skin tone and lower education. The results also showed that a leader is perceived as being worse no matter his level of education when the leader has dark skin tone. The results imply that leaders with dark skin tone are automatically at a disadvantage, because their audience will not use their personal attributes, qualities, and achievements to evaluate them, but will have a pre-set evaluation of anyone of the same level of skin tone. It is also implied that leaders with light skin tone do not have this disadvantage, because they will be perceived based on their individual accomplishments and attributes.

Since there were many limitations to this study involving such factors as a minimally diverse sample population, it is still possible that the study would yield significant main effects for all the predictions made in the outset of this study. It can, therefore, not conclusively be decided that the predictions are false or are not valid. A very large scoped study based on the suggestions made for future directions must be attempted. The results of this type of proposed study would greatly increase the generalizability of the findings, the internal validity, and the power of the study. There are not enough strong, diverse, and comprehensive studies related to the perception of leaders based on race, and other important personal attributes. In an era where racial barriers are regularly being knocked down, especially in the realm of politics, this type of study is paramount. We need to better understand how a leader is evaluated when various personal and physical attributes are changed. With findings from such a study, the causes of the discrimination brought on by various variables such as race when selecting a leader could be better understood. Follow up studies could then be conducted that would identify specific items that create this discrimination. Such results could be applied to leaders around the world, and would, subsequently, allow leaders to use their personal accomplishments and abilities as the sole means with which they would be evaluated, thereby eliminating phenotypicality as a screen for leadership evaluations.

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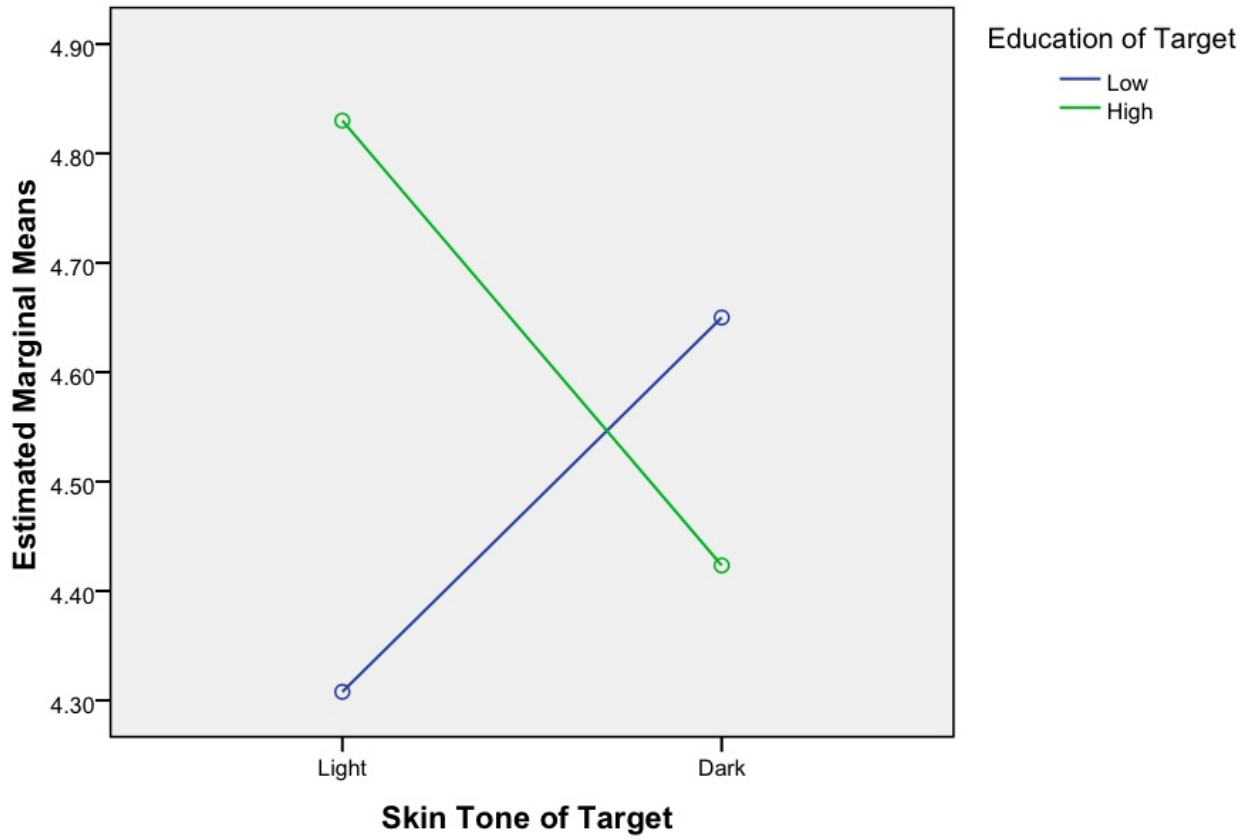
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Figure Captions

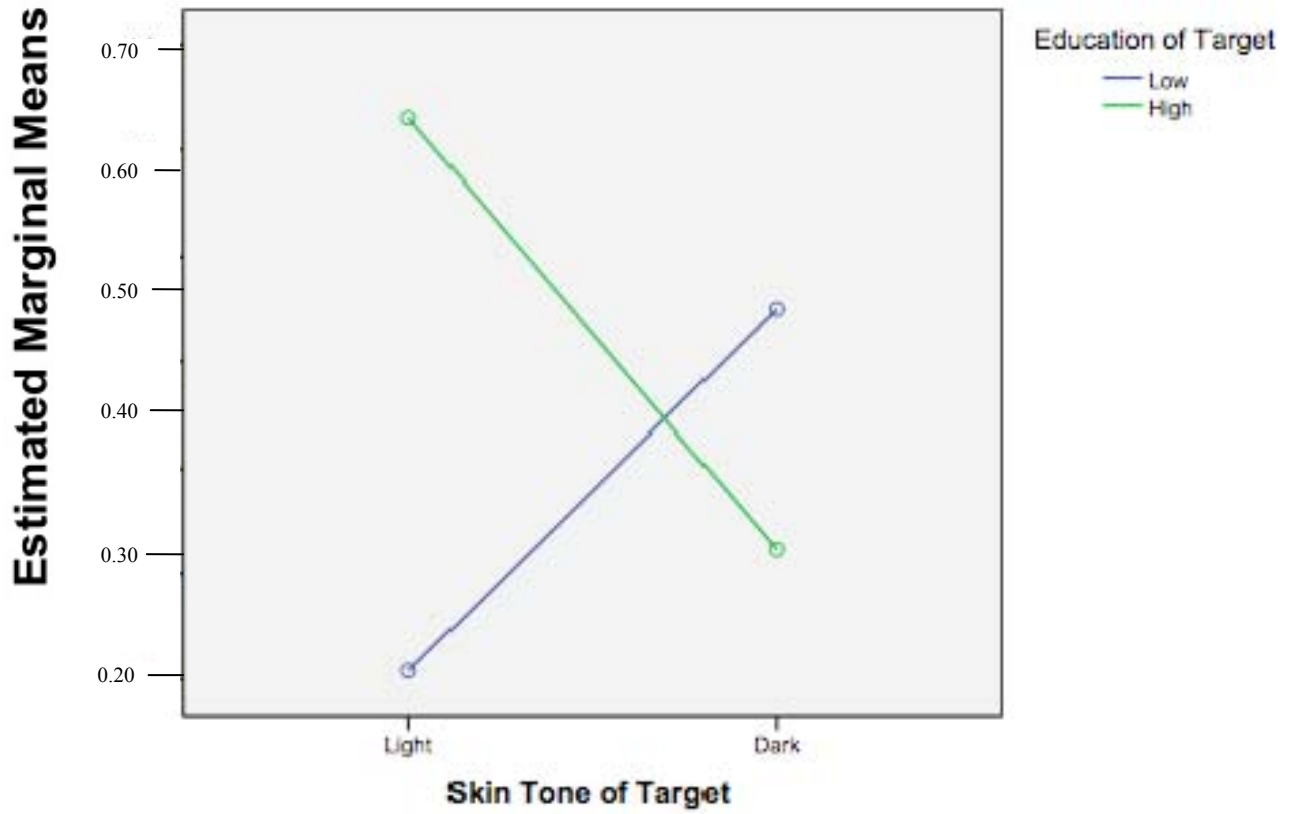
Figure 1. Interaction between skin tone and education level on ratings using the evaluation index.

Figure 2. Interaction between skin tone and education level on same leader ratings.

Estimated Marginal Means of Evaluation Index



Estimated Marginal Means of Same Leader



Appendix A: Target Photographs

Black, Light Skin Tone



White, Light Skin Tone



Black, Dark Skin Tone



White, Dark Skin Tone



Appendix B: Speech

I stand before you today as an advocate for more efficient energy sources to power our city's municipal buildings. There are many heated debates over alternative energy, and there exist many pro and con positions on the subject.

Many cities across the country have begun implementing solar and wind energy as ways to provide supplemental sources of electricity to schools and city halls. In our current bad economy, offsetting the costs of electricity will save money for our city.

With more money on hand, we can keep our city from decline, and finance public initiatives to make our city more beautiful, safer, and attractive to future homeowners.

The best plan to introduce alternative energy to our city involves the help of all of you. Each of you must do your part and volunteer your time to help set up solar panels at different locations so we can save money switching to new a source of energy. If we do not all lend a hand, we cannot afford to bring new energy sources to our city, because commercial solar panel installers charge more money than we have to spend.

If you are concerned about qualifications needed to assemble and install solar panels, do not worry. No previous experience is needed. Professional representatives will provide on-site training. They give their word that putting solar panels together is a task at which anyone can quickly become an expert.

All we need from you is a commitment of two hours per household in assisting with the solar panel instillation. Only one person from each household is urged to volunteer. Sign up sheets have one hundred slots for Friday, Saturday, and Sunday every week for the next month.

This is a step towards securing our city's future, and making our children's lives more pleasant. We will cut down pollution, we will save money, and we will achieve all of this by working together as a community.

Thank you all for your time, and I hope to see you in the upcoming month at the solar panel sites.

