

Students' First- Impressions of Faculty in a Graduate Health Science Program

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Abstract

Background. Over the past two decades, there has been a plethora of information in the literature focusing on professors and their view of students based on appearance, gender, and race. Many professors are now required to take mandated courses at their universities in an effort to learn cultural competencies with the goal of reducing potential bias. While there has also been discussion about students' potential biases toward their professors, particularly in the context of course evaluations, additional research is needed. This could be important to know, especially in a world where student course evaluations, and tools like Rate-My-Professor carry so much weight. It is also important to know about potential bias of our future clinicians and health care providers before they graduate. *Purpose.* The purpose of the first part of this pilot study was to investigate if there were differences in students' first impressions of faculty based upon what they saw as the faculty's race and/or gender, and if so, to what extent was there a connection with the student's own race or gender. The purpose of the second part of this study was to investigate if students had more difficulty answering quiz questions based on what they heard when information was given to them is from a professor that they initially rated low based on their visual first-impression. *Methods.* For the first part of the study, Students saw ten, 20-second videos, each with one of five professors-actors who were all different in appearance; however, the scripts were the same for each professor-actor. The students then rated these professors based solely on these short videos. For the second part of this study, students listened to five readings recorded by each of these professors. They took a short quiz after each, to see whether their initial impression of potential ability to learn with each professor was accurate. *Results.* Although 27 students began the survey, only eight participants completed the entire survey. Regardless of the small sample size, there were some interesting findings. In the audio, there were no correlations found between a student's first impression of a professor and their ability to learn from that person. Using a Chi Square for the number of positive scores versus negative scores given on the video, the only significant finding was between the number of high scores given to an unqualified male versus an unqualified female ($p = .025$). From the video component, students appeared to appreciate the males more than the females regardless of qualifications. There were no significant differences when looking at race, but the black, male professor had the highest visual score. *Discussion.* By providing a better appreciation of how students perceive their professors, there could be a better understanding of potential bias and resulting barriers to communication with patients in future clinical settings. This pilot study will help to guide future research about provider bias in pre-clinical education settings.

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INTRODUCTION

Background

Over the past two decades, there has been a great deal of information in the peer-reviewed literature focusing on professors, and their view of students based on appearance, gender, and race (Canning, et al., 2019; Castillo-Montoya, 2019; Littleford, et al. 2010). Many professors are now required to take mandated courses at their universities in an effort to learn cultural competencies with the goal of reducing potential bias (Donahue-Keegan, et al., 2019; Nenonene et al, 2019). While there has also been discussion about students' potential biases, particularly in the context of course evaluations, additional research is needed about potential bias of future clinicians and health care providers (Mitchell and Martin, 2018). To what extent do future health care providers have existing biases and how can these be addressed prior to completion of clinical education? Reciprocally, how do patient biases impact their perception of a clinician's competence, relatability, and the patient fidelity with verbally-provided treatment plans?

Theoretical Framework

According to Shaklee and Baily (2012), at least 75 percent of teachers in the United States are white, Anglo-European females, and less than ten percent of K-12 teachers in the United States speak a language other than English. Professors and instructors in many disciplines across higher education often mirror these demographics. This study was founded in the overlapping frameworks of feminist standpoint theory, critical race theory, and critical whiteness studies.

Feminist Standpoint Theory

Using a feminist lens, feminist standpoint theory is one of many feminist theories that maintains gender is inherent in the structures of language, constructed as dichotomous categories that are hierarchically arranged in relation to one another. If the structures of language are charged with power, and its associated sociocultural norms, this is problematic in daily events and in the interpretation of those events. Feminist theory seeks to transform power relations.

Specifically, feminist standpoint theory is “a standpoint [that] carries with it the contention that there are some perspectives on society from which, however well-intentioned one may be, the real relations of humans with each other and with the natural world are not visible”

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(Hartsock, 2019, pp. 106-107). Specifically, feminist standpoint theorists make three essential claims: knowledge is socially situated; marginalized groups are socially situated in ways that provide the ability to increase their awareness and ask questions better than (or different from) the non-marginalized; and research focused on power relations should begin with the lives of the marginalized (Hartsock, 2019).

Critical Race Theory

Racism is pervasive in U.S. society, woven into laws, policies, and institutions, operating individually, systematically, and materially, which either privileges or marginalizes (Delgado & Stefancic, 2012; Ladson-Billings, 2013). How can we transform the relationship between race, racism, and power? CRT focuses on both the centrality and intersectionality of racism and presents a challenge to dominant ideology (Macintosh, 2003). By focusing on the ways in which racism is embedded in our institutions, systems, and culture, we can use critical race theory as a framework to consider how all oppression interrelates (Harris, 2002). Racism is complicated even further with the notion of intersectionality, which is about how oppressions (race, class, gender, etc.) intersect (Crenshaw, 1989).

One construct stemming from critical race theory is abolitionist teaching, which actively and purposefully confronts systemic inequities in our educational system. For example, “abolitionist teaching stands in solidarity with parents and fellow teachers opposing standardized testing, English-only education, racist teachers, arming teachers with guns, and turning schools into prisons. Abolitionist teaching supports and teaches from the space that Black Lives Matter, all Black Lives Matter, and affirms Black folks’ humanity” (Love, 2020, p.12).

Lastly, Milner (2010) delineates five interconnected areas that are critical in unveiling and bridging opportunity gaps for the purpose of promoting equity in education: 1) the rejection of color blindness; 2) the development of skills to understand, work through, and transcend cultural conflicts; 3) overcoming the myth of meritocracy; 4) the denunciation of deficit mind sets; and 5) the resistance of context-neutral mindsets and practices. Critical race theory and related perspectives can help reveal systemic injustice due to race, class, and gender.

Critical Whiteness Studies

Critical whiteness studies perceive Whiteness as an ideological, political, legal, and social fiction, placing Whites in a position of hegemony over non-dominant groups. Consequently, in schooling at all levels, curricular tools of whiteness “use a variety of strategies to socialize students to internalize existing racist ideologies, ensuring that racial hierarchies are maintained through the education system” (Picower, 2021, p. 26). These tools include exclusively-White

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curricula, dodging blame, minimizing injustices, conflating equal with equitable, dependence on viewing the world through the White gaze, embedded stereotypes of racial differences and deficiencies, and racist policies and procedures.

The academy can disrupt schooling by interrogating the fiction of whiteness as a way to help readers of all races “think critically about how race functions systemically and often subconsciously to privilege people with certain perceived skin traits” (Beech, 2020, p.3). Therefore, people can confront their own complicity in white supremacy, which is the “racist ideology that is based upon the belief that white people are superior... and that therefore...should be dominant...which extend to how systems and institutions are structured to uphold this white dominance” (Saad, 2020, p. 12).

There is an “enduring presence of institutional racism and the culture of whiteness in the academy” (Picower & Kohli, 2017, p. 6), which means there is radical work to be done. Understanding the discourses of power, who has access, and how they intersect is a critical first step in being able to disrupt them. Muhammad (2020) asserts that “we live in a period where there’s no time for ‘urgent-free pedagogy.’ Our instructional pursuits must be honest, bold, raw, unapologetic, and responsive to the social times” (p. 54). Conceivably we can make our research pursuits the same, utilizing multiple theoretical perspectives, ascribing to this sense of urgency, and channeling our energies in the direction towards transformation.

Purpose

People tend to hold on to their initial impressions, finding it difficult to change their opinion even when presented with substantial evidence to the contrary (Aversa et al., 2021). The purpose of the first part of this pilot study was to learn whether or not there would be differences in students’ first impressions of faculty based upon what they saw as the faculty’s race and/or gender, and if so, is there was a connection with the student’s own race or gender. The purpose of the second part of this study was to investigate the impact of students’ perceptions on learning from an instructor who they had initially rated low on a first impression scale.

METHODS

Sample

Student volunteers were recruited via an emailed invitation from the first-year graduate class in a College of Health Sciences program at a University in Nashville, Tennessee. The study started with 27 volunteer participants (N=27). One volunteer was omitted for not answering the demographic that asked if they were over 21 (N=26). Eighteen volunteers dropped out after viewing the questions that followed the first video (N=8). One person did not take the quizzes in the audio. All eight participants in the final study were white females between the ages of 24 and 39 (mean = 29.63 years) from the same private University.

Data Collection

The Video Component

Five professor-actors were videotaped twice: an African American male, an African American female, a White male, a southern White female, and a Pilipino male. The participants watched ten, 20-second videos, each with one of the five professor-actors introducing themselves as an anatomy professor, and listing their credentials. Each professor was seen twice: once reading from a script where they had wonderful credentials, and once reading from a second script where they had not yet graduated themselves. All five professors read the same two scripts. Following each video, the participants were asked to quickly rate the professor using the a Likert scale rating across four criteria (See Figure 1). The only difference between each of the first five videos was the gender and the race of the person seen. The first script was identical for each. The same for the second five videos, in which the second script was used.

Video1

AFTER watching the Video #1, please answer the following (where 1 is strongly disagree, and 10 is strongly agree):

	1	2	3	4	5	6	6	7	8	9	10
This individual seems knowledgeable											
This individual appears to be a good professor.											
I feel confident that I could learn something from this person.											
I would be happy to take a class from this person											

Figure 1. Rating scale used following each video.

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The Audio Component

After watching each video, participants listened to five short readings, each recorded by one of the five professor-actors. Participants took a short quiz after each, examining if the student was able to learn from this professor-actor. One of the readings is below followed by a couple of the questions that followed (See Figures 2 and 3).

The Cardiopulmonary System
Notes from Dr. Natalie Michaels

Reading #1

The **cardiovascular system** is made up of the heart and the vascular network. The term, **heart rate** refers to the number of times your heart beats per minute, and **stroke volume** refers to the amount of blood that is pumped from your ventricle with each heartbeat. When you multiply these together you get the amount of blood pumped by the ventricle each minute, or the **cardiac output**. The adult heart is made up of **four chambers**, with blood circulating from the veins to the right chambers, then to the lungs, and back to the left chambers of the heart, and finally to the body; but, the **prenatal circulation** looks a little different. The blood does not go to the lungs in the prenatal heart because the embryo is not yet using the lungs. The blood bypasses the lungs so the gas exchange can occur in the placenta, and it does this through **three shunts**: the ductus venosus; the foramen ovale, and the ductus arteriosus. Blood comes from the placenta via the umbilical vein. Half of this blood goes to the fetus via the ductus venosus and is carried to the inferior vena cava, while the other half enters through the liver via the portal vein.

Figure 2. One of the readings in the survey.

1. This term refers to the amount of blood that is pumped from your ventricle with each heartbeat.
 - A. Heart Rate
 - B. Stroke Volume
 - C. Cardiac Output
 - D. Blood Pressure

2. How do you calculate the Cardiac Output?
 - A. Multiply the Heart Rate by the Stroke Volume
 - B. Subtract the Heart Rate from the Stroke Volume
 - C. Multiply the Heart Rate by the Systolic Blood Pressure
 - D. Subtract the Heart Rate from the Systolic Blood Pressure

5. Rate this statement as 1 for complete disagreement, and 10 for completely agreement.
I believe I could learn well from this instructor. _____
Briefly explain your answer:

Figure 3. Some of the questions that followed.

Data Analysis and Results

Hypothesis #1. If students were listening to what the professor said, then they would give the professor a higher grade when the professor was more qualified.

Mean scores for each of the four post-video sliding scale questions are shown in Figures 4-7. The African American male professor received the highest score overall, with the lowest score going to the African American female.

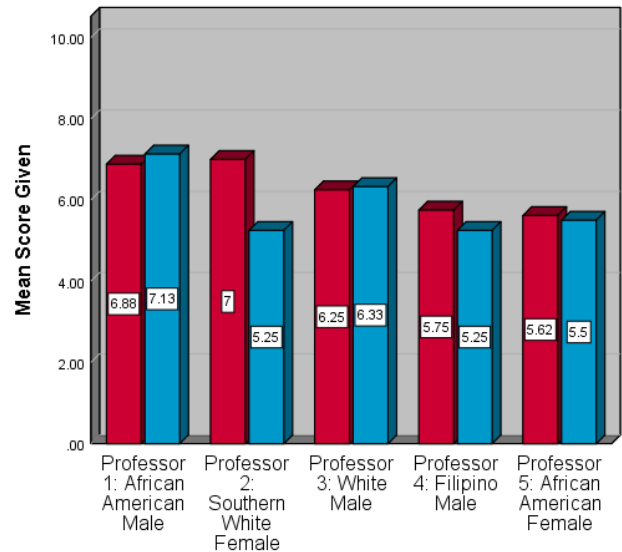
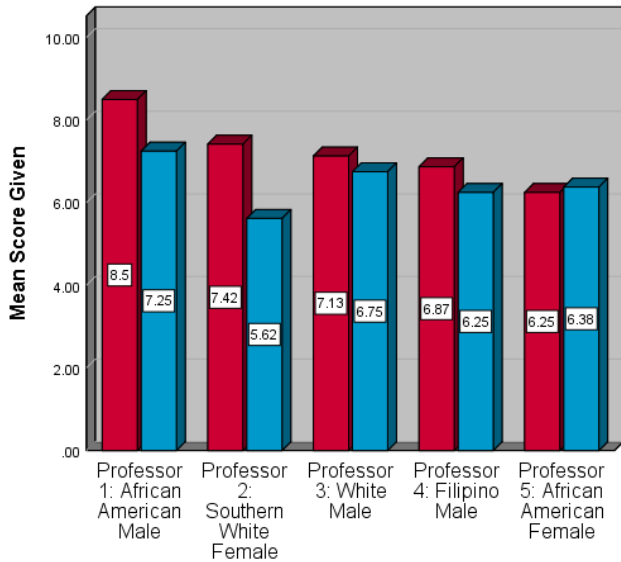


Figure 4. This Individual Seems Knowledgeable

Figure 5. This Individual Appears to be a Good Professor

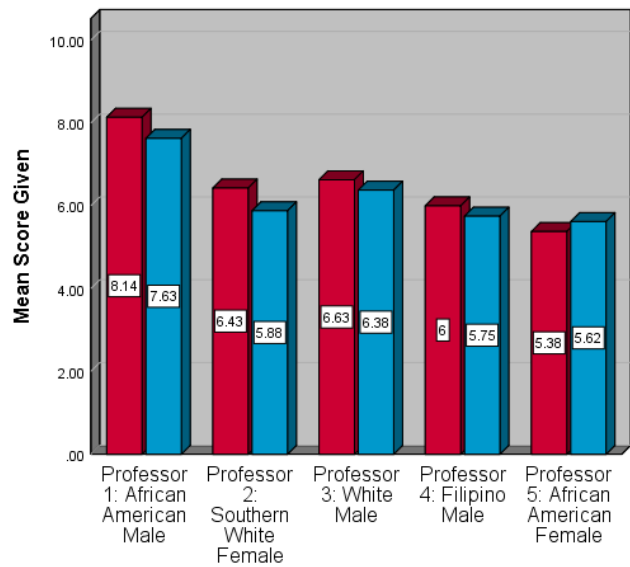
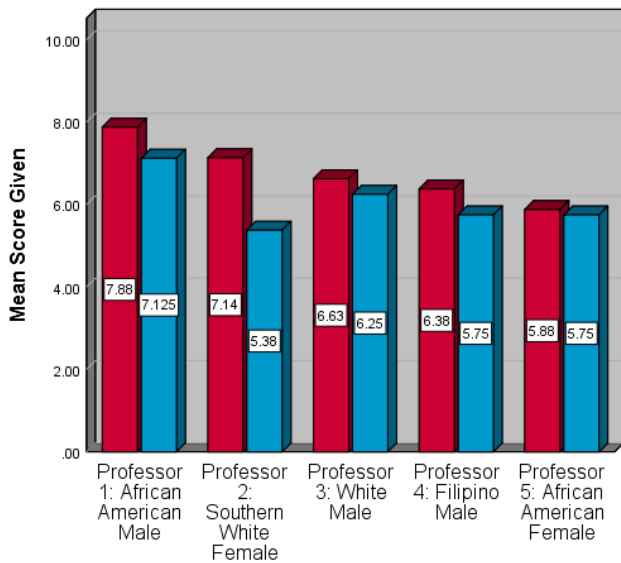


Figure 6. I Could Learn Something from This Person

Figure 7. I Would Be Happy to Take Class from this Person

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Hypothesis #2. If students were listening to what was said, all the qualified professors would get a similar grade, as would all the less qualified candidates.

Differences between candidates for each of the four sliding scale questions are shown in Figures 8-11, along with their corresponding ANOVA calculations. Statistically significant differences were found for the first question (The individual seems knowledgeable) for the highly credentialed script ($p < .05$), for the second question (this individual appears to be a good professor) for the less qualified script ($p < .01$) and for the third question (I could learn something from this person) for the highly credentialed script ($p < .05$).

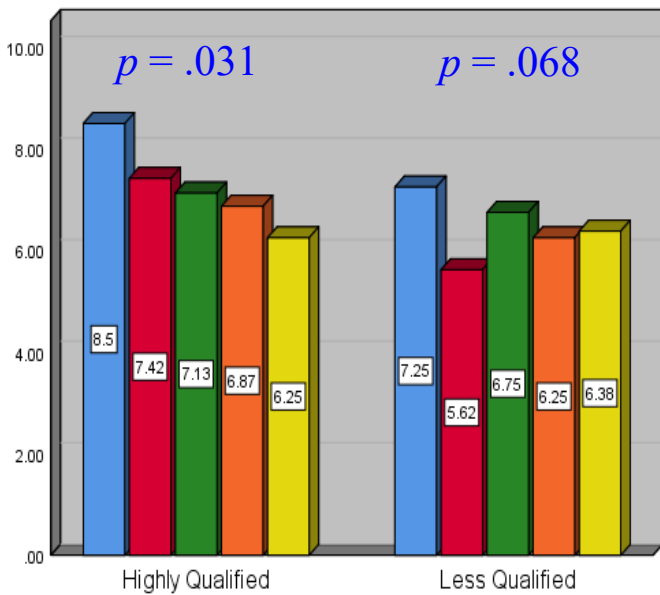
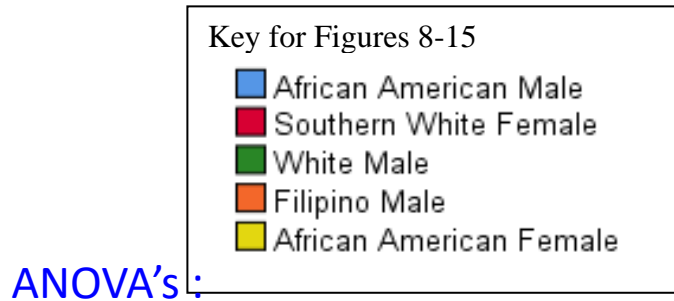


Figure 8. This Individual Seems Knowledgeable

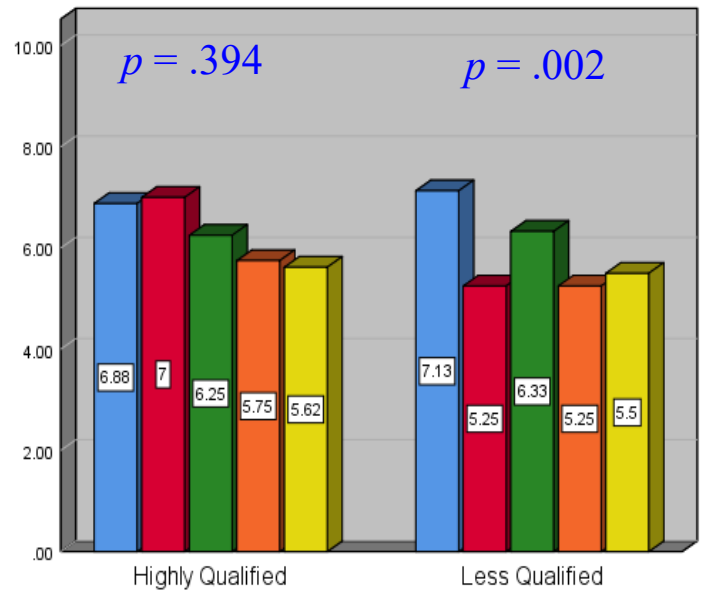


Figure 9. This Individual Appears to be a Good Professor

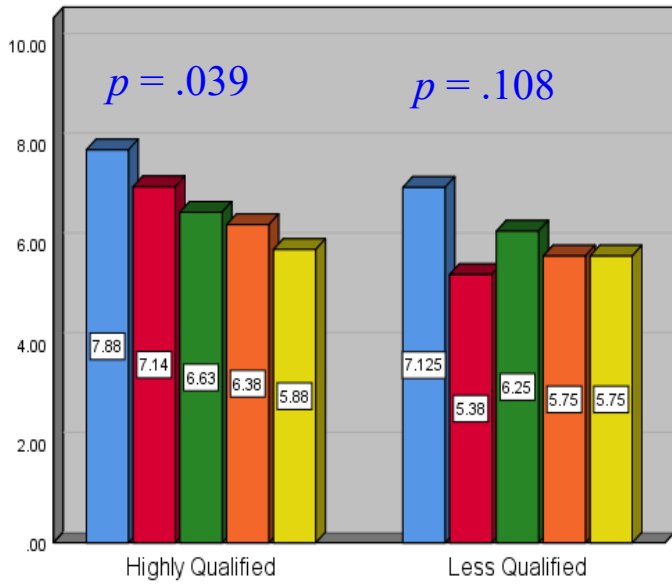


Figure 10. I Could Learn Something from This Person

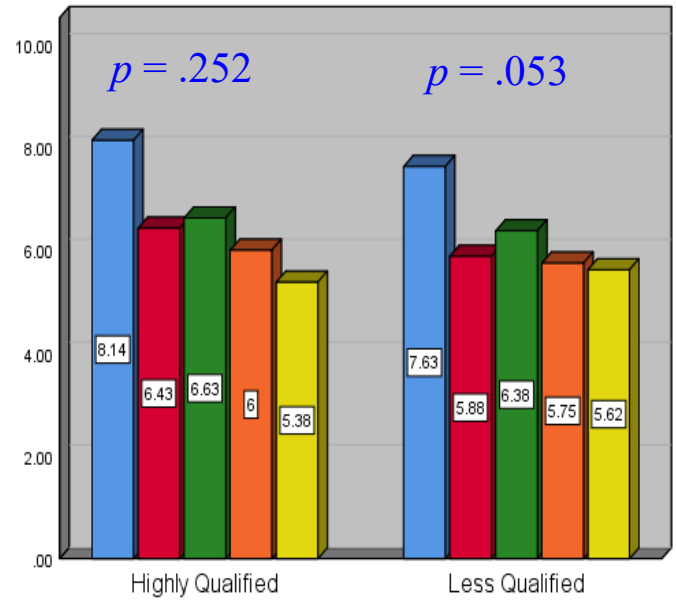


Figure 11. I Would Be Happy to Take Class from This Person

Hypothesis #3. The first impression would determine a students' ability to learn from that professor.

Differences between candidates for the first of the four sliding scale questions is shown again in Figure 12 , as a comparison to the one question asked in the audio component of this study (Figure 13). The differences for the audio component were not as significant, or as dramatic as the ratings of the professors in the video component. Although there were differences in the quiz grades between the professors, these were not significant (Figure 14).

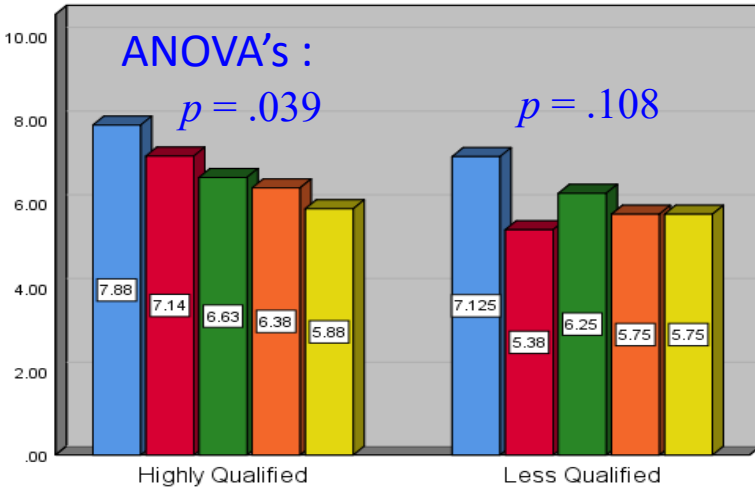


Figure 12. From the Video –

“I feel confident that I could learn something from this person”

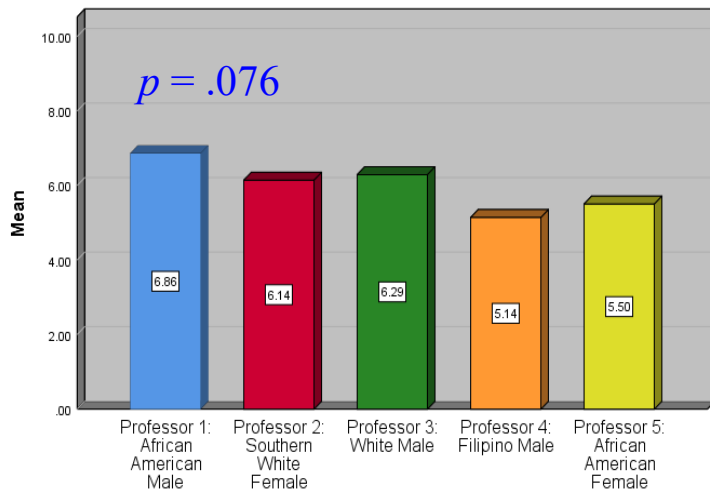


Figure 13. From the Audio –

“I believe I could learn well from this instructor”

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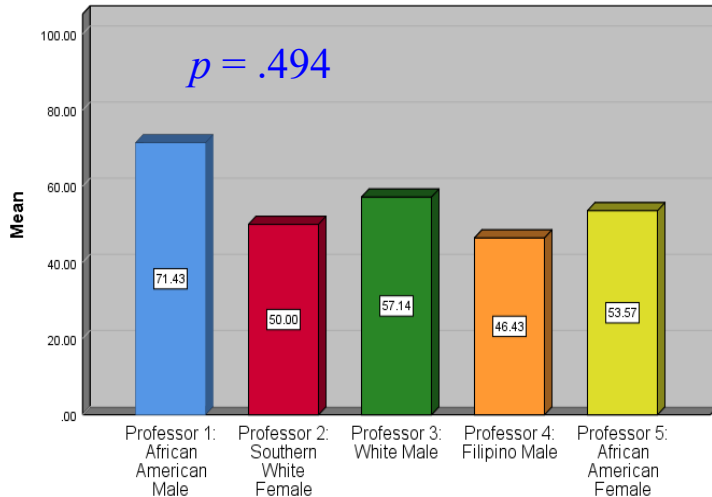


Figure 14. Quiz grades from each professor

Hypothesis #4. The first impression might be affected by gender or by race.

Two-by-two contingency tables were created to see if there were differences between the number of high grades versus the number of low grades for professors based on race and gender. Grades were given on a scale of 1 to 10. A high grade was a 7 or higher, and a low grade was 4 or below. To be significant at the .05 level the math must equal 3.841 or higher. The analysis for qualified versus less qualified totaled $X^2 = .001$ and was therefore not significant. The analysis for Black versus White when looking at the more qualified videos only totaled $X^2 = .261$ which was still not significant. Chi Square analysis for Black versus less White when looking at the less qualified videos only totaled $X^2 = .031$ which was again not significant. The analysis for Male versus Female when looking at the more qualified videos only totaled $X^2 = 1.469$ which was still not significant. And finally, the analysis for Male versus Female when looking at the less qualified videos only totaled $X^2 = 5.062$ which was significant at the .05 level ($p=.025$).

DISCUSSION

For the sake of continuity this discussion has been broken up into each of the hypotheses.

Hypothesis #1. If students were listening to what the professor said, then they would give the professor a higher grade when the professor was more qualified.

When considering figures 4-7, overall, a professor received a higher grade when more qualified, but there were a few exceptions. Students tended to “like” the African American female better when she was less qualified, but only for two questions, and these differences were

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not significant. Still this lends credence to the complications found in our society when discussing the notion of intersectionality and critical race theory (Crenshaw, 1989; Harris, 2002).

Hypothesis #2. If students were listening to what was said, all the qualified professors would get a similar grade, as would all the less qualified candidates.

This was not found to be the case, in fact the differences were significant at the .05 level for the first question (The individual seems knowledgeable) for the highly credentialed script, for the second question (this individual appears to be a good professor) for the less qualified script, and for the third question (I could learn something from this person) for the highly credentialed script. Although this was a pilot study with a small sample, and these differences should be looked at with caution, each professor said the same thing, and should have been evaluated accordingly similarly. It appears that the visual presentation of the professor outranked the spoken credentials of that person. If the perspective of Aversa et al. (2021) holds true, that people tend to hold on to their initial impressions, this could be a difficult situation for a professor meeting students for the first time, or for patients to understand and comply with instructions from diverse clinicians.

Hypothesis #3. The first impression would determine a student's ability to learn from that professor.

This was not found to be the case in this pilot study. Students' perceptions of their ability to learn from someone did not appear to affect their actual outcome. Although the professor with the highest video grades did in fact achieve the highest quiz grades from the students, this difference was not statistically significant. In fact, the professor with the lowest video grades from the students, achieved the third highest quiz grades from the students.

Hypothesis #4. First impressions of faculty by students might be affected by gender or by race.

When performing chi square analysis, there were no significant differences for qualified versus less qualified, for Black versus White highly qualified professors, for Black versus less White less qualified professors, or for Male versus Female highly qualified professors. The analysis for Male versus Female when looking at the less qualified professors, however, showed a difference that was significant at the .05 level ($p=.025$), with male professors achieving a larger number of high grades than their female counterparts. This this difference is scoring when professors are stating the same words with respect to their credentials, supports the contention of Hartsock (2019) that states that the real relations that humans have with each other and the natural world, especially with respect to gender, are often not visible. Follow up is needed

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regarding the extent to which these findings are applicable in clinical settings. Future research is needed to delve into possible overlap between these findings and understanding of -- and fidelity with -- patients' clinical instructors from clinicians of all backgrounds.

The limitations of this study are many, but the major one is the small sample size. Another limitation is that the entire sample consisted of White, female students in their 20s, all studying in middle Tennessee. There is no question that the results might be skewed because of the homogeneity of this sample and should be interpreted with caution. It is recommended that this study be repeated with a larger, more diverse sample size. This research team is in the process of implementing a newer, revised version of this study to attract a larger, more diverse sample.

CONCLUSION

Video

Although the results of this pilot study should be interpreted with caution, in the videos, it appeared that it was not always what the professors were saying, but how they were saying it, or possibly who was saying it that mattered. Is it the message or is it the delivery (or deliverer) of that message?

These are the questions that remain for the next study. A less qualified male seems to be more easily accepted as a professor than a less qualified female. The reason for this is also unclear, and further demonstrates the need for additional research.

Audio

There was no statistically significant relationship between the participants' impression of the professor and their ability to learn from that professor. A professor might be viewed as less competent, but the student can still hear the content, and possibly learn from them.

Significance

First impressions are important. Social constructs like race and gender have real implications in the classroom and in clinical settings. An increased understanding of how students perceive professors could provide a basis for attending to bias and issues of communication. More research is strongly needed in this area because a recognition of the power of students' first impressions can inform instructional decisions as they relate to fostering intercultural competencies.

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