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EXPLORING FACULTY PERCEPTIONS ON (IMPLICIT) BIAS DURING THE GRADUATE ADMISSION REVIEW PROCESS

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EXPLORING FACULTY PERCEPTIONS ON (IMPLICIT) BIAS DURING THE GRADUATE
ADMISSION REVIEW PROCESS

by

Brandy L. Pieper

A Doctoral Project Submitted to,
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and the School of Education
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ABSTRACT

The purpose of this study was to examine whether implicit bias exists within the graduate admissions process at a large public research university in the Southeast United States.

Additionally, this research sought to identify the type of strategies graduate faculty use to assess their implicit bias. Finally, this research assessed the support graduate faculty may need to better recognize and gauge implicit bias during the graduate application review process. This study employed the use of a qualitative, phenomenological research design and conducted in-depth interviews with graduate faculty members that serve on admissions committees. Through data analysis of participant interviews, several broad themes and sub themes related to faculty perceptions of their own bias, the bias of others, admission committees, and implicit bias training emerged. The study outcomes are discussed in relation to the prior research and literature on this phenomenon. Implications for practice including recommendations for practitioners and strategies for how these results can be practically applied are included.

Keywords: implicit bias, graduate admissions, admissions committee, graduate faculty, holistic admissions

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DEDICATION

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LIST OF ABBREVIATIONS

<i>GRE</i>	Graduate Record Examination
<i>GPA</i>	Grad Point Average
<i>STEM</i>	Science, Technology, Engineering, and Mathematics

CHAPTER I – INTRODUCTION

Each admission cycle, faculty admission committees review hundreds of applications for programs that have a limited number of open spots. These admission committees invest considerable time and effort into defining graduate student success, setting admission requirements, awarding fellowships, and hiring research assistants, among other committee obligations. Although faculty aim to admit an academically talented and inclusive cohort, many admission committees do not meet this objective, instead relying on traditional measures of academic success, field norms, and similar affiliations (Rivera, 2018). While many committees strive for a holistic review process, the enormous amount of time it takes to review applications can cause faculty to settle on more easily observable academic qualities (Posselt, 2014). Additionally, unconscious bias may impact the faculty reviewer's decision making even when holistic constructs have been introduced into the admissions review process (Wilson et al., 2019).

Unconscious bias can cause individuals to make inaccurate assumptions or generalizations when judging others. These implicit thoughts are contrary to consciously held beliefs and can have a significant impact on everyday decision making (Banaji et al, 2003). Recognizing and addressing faculty bias during the graduate admissions review process is critical because these biases can shape admission committee members' decisions regarding applicant qualification for graduate study. Research has shown that these unconscious associations can influence faculty reviewers' judgements during the admission review process and as such, result in admission decisions that may disadvantage some applicants (Posselt, 2014, Wilson et al, 2019).

Background

The graduate admissions review process is highly decentralized when compared to other settings within the university (Kent & McCarthy, 2016). A central admissions unit may be responsible for overseeing the application processing, GPA calculation, collection of additional supporting materials, and ensuring adherence to university admission regulations and objectives. The review of applications for an admission recommendation into individual graduate programs is conducted by the graduate faculty who maintain the expertise within those respective fields. While graduate admission committees have a high degree of autonomy defining their own admission review processes, they often seek support from the central admissions unit on admission process workflows, technology needs, and admission policy and best practices.

It is the expectation that graduate admissions committees will give a detailed review of each applicant and make an admissions decision based on their credentials and experience as faculty. However, many faculty committee members have begun to rely on standardized test cut-off scores and GPA thresholds for more efficient review processes and times (Bauerlein, 2016; Potvin et al., 2017; Scherr et al., 2017; Wilson et al., 2019). Overuse of such quantitative metrics has been shown to reduce the opportunity for graduate school and disproportionately impact underrepresented students (Potvin et al., 2017; Wilson et al., 2019). Many graduate programs are moving towards holistic admissions review model, as research has shown that assessing an applicant's non-cognitive traits may be a better predictor of success (Kent & McCarthy, 2016). Understanding the role that faculty implicit bias plays within the graduate admissions review process is critical to implement process changes within existing admission review structures. While much of the literature on graduate admissions committees has focused on their overreliance on standardized test scores and other quantitative metrics, increasingly research has begun to look at how implicit bias factors into decision making during the admissions review

process (Posselt, 2014, Wilson et al, 2019). Research has also illustrated the need to develop strategies that remove biases to build more inclusive cohorts (Potvin et al., 2017). Holistic admission strategies, including the use of admission rubrics, have been shown to reduce faculty unconscious bias during the admissions review process (Kent & McCarthy, 2016). Introducing holistic constructs requires a more complete understanding of internal graduate program admission review practices by faculty and their knowledge on how unconscious bias may impact their judgements during the review process.

Statement of the Problem

Although faculty aim to be objective in their assessments, unconscious or implicit bias can influence their attitudes. Well established research indicates that people often hold unconscious or implicit bias, which describes feelings and/or beliefs outside of one's control (Banaji et al, 2003). To add to that notion, contemporary evidence shows these implicit or unconscious associations can influence a faculty reviewers' judgements during the admission review process and as such, result in admission decisions that may disadvantage some while benefitting others. Examples of biases include having preexisting expectations on race, ethnicity, gender, fields of study, and prestige of prior institution to name a few (Women in Science & Engineering Leadership Institute [WISELI], 2012). A significant finding in many studies indicates that both male and female reviewers make gender-based assumptions. In one study, male and female faculty viewed a female student as less competent and worthy of being hired than an identical male student to the extent that the female candidate was offered a smaller starting salary and less mentoring (Moss-Racusin et al., 2012). There is evidence in the research to suggest that this phenomenon has been a longstanding issue. More than decades ago, Steinpreis et al. (1999) found that when male and female faculty evaluated curriculum vitae

randomly assigned with a male or female name, both the male and female faculty reviewers rated the male applicant higher in research, teaching, and service experience and were more likely to hire the male applicant over the female applicant. Faculty recognition that implicit bias can influence their review process is critical in ensuring a fair and equitable review process for all applicants.

This research study took place at a large public research university in the Southeast United States where the nature of graduate admissions and enrollment management is rapidly changing. As central administration embraces a more holistic admissions review framework and adopts a more substantial role in the training and mentoring of graduate program directors, it is becoming increasingly important to understand how faculty bias may impact graduate admissions. Administrators need to understand where these biases exist in the admission review process and ensure that faculty's admissions decisions align with larger institutional objectives and enrollment goals. Although there is a centralized application process at the institution, a decentralized applicant review process by faculty members leads to a lack of understanding for the central administration unit on how faculty are conducting their application reviews. Each graduate program is unique; individual review process, a large volume of applications, and faculty and staff time constraints make it hard to identify if and where faculty bias exists within the admissions process. To date, there has been little effort to understand faculty bias during the graduate admission review process or to determine how faculty are mitigating or assessing any potential bias that may exist at the institution.

Additionally, graduate application review is purposefully autonomous. Graduate faculty are the experts in their field; they are selecting their research apprentices, their employees, and their future colleagues. However, studies have shown that faculty made generalizations based on

their implicit bias that was not valid. In a national study conducted using more than 300 letters of recommendation written by medical faculty, letters written for women gave less overall assurance, cited their personal lives more compared to men, and portrayed applicants as less qualified researchers, while letters written for men indicated them as strong researchers and better professionals (Trix & Psenka, 2003). While it is important to maintain autonomy within the application review process, graduate programs at the study site often rely on central processing and administrative units for guidance, training, and leadership. Therefore, a better understanding of faculty decision making processes during the admission review stages is necessary to guide these efforts and introduce more holistic review constructs.

Purpose of Study

This doctoral research study examined whether implicit bias exists within the graduate admissions process at a large public research university in the Southeast United States. Additionally, this research aimed to identify what strategies, if any, faculty used to assess their implicit bias. Finally, this research assessed what support graduate faculty may need to better recognize and assess implicit bias during the graduate application review process. The purpose of this qualitative research study was to discover whether faculty implicit bias exists within the graduate admissions review process at the study site, and if so, provide evaluation criteria recommendations to the faculty reviewers to minimize bias during future admission cycles.

Research Questions

The purpose of this qualitative research study is to discover whether faculty implicit bias exists within the graduate admissions review process at a large public research university in the Southeast United States and if so, to provide evaluation criteria recommendations to the faculty

reviewers to minimize bias during the admission review process. This investigation was conducted by exploring the following research questions:

1. How do graduate faculty assess their implicit bias when reviewing graduate applications at a public research university in the southeast United States?
2. What strategies do graduate faculty currently use to recognize or minimize their implicit bias when reviewing graduate applications within this public research university in the southeast United States?
3. What support do graduate faculty need to better recognize or address their implicit bias when reviewing graduate applications within this public research university in the southeast United States?

Significance

The intended contribution of this study is to investigate and report the presence of faculty implicit bias during the admission review process. By connecting the research on faculty implicit bias and graduate admission committees, information gained will be used to improve current graduate admissions evaluation practices and assist in introducing more holistic review constructs to graduate faculty at the research site. In addition to this goal, other universities offering graduate programs can apply the findings of this research to their own internal admission frameworks to minimize faculty implicit bias. Additionally, this project will add to the existing body of knowledge within the study site's central admission unit regarding graduate admissions committees' processes. The insights gained will advance the practice and incorporation of holistic review in an effort to minimize further bias in future admission cycles.

Beyond graduate admissions, the findings within this study can be used by other offices at the institution that conduct admissions, including graduate admissions or professional

programs, to address or minimize bias on their admission committees. Unconscious bias does not just impact admissions review, but also impacts hiring, teaching, and other research practices (Easterly & Richard., 2011, Judson, 2019, Kaatz et al., 2016). Faculty may also apply knowledge gained from this work to minimize bias that may occur during their decision-making processes to their roles outside of admissions.

Definition of Terms

Bias – a preference towards one person, or group that generally slights another individual or group. Biases can be carried by both individual people or institutions and can have positive or negative outcomes associated with them. (University of California, San Francisco, n.d.)

Holistic admissions review – an admission review strategy that incorporates a broad range of characteristics including non-cognitive traits during the admissions review process (Kent & McCarthy, 2016).

Unconscious bias (also known as implicit bias) – labels or stereotypes that people form outside of their own conscious belief about groups of people; all individuals hold these types of unconscious beliefs. These unconscious biases are often created as a way of categorizing the world's many different social structures. (University of California, San Francisco, n.d.)

Assumptions

The following are assumptions made on the part of the researcher in this study. This study assumes that the faculty participants have accessed their implicit bias. Namely, the data for this study were collected assuming that faculty have previously engaged in thorough self-reflection related to the topic being investigated. It is also assumed that faculty participants would have used a strategy or strategies to minimize their bias. Specifically, to determine the findings of this study, it was essential to assume that all faculty participants have made a

dedicated effort to develop some strategies to reduce their unconscious or implicit bias. Lastly, the researcher assumes that faculty participants are willing to speak openly and honestly about this topic and that their opinions accurately reflect their experiences with implicit bias during the admissions review process. To ascertain trends and make targeted suggestions on bias reduction based on study findings, it was essential to assume that faculty participants were candid on how implicit bias impacts the graduate admissions review process and their decision making.

Delimitations

Delimitations are elements of the study that are within the scope of control of the researcher. These elements describe the parameters of the study and set the stage for the study design. The following delimitations have been set for the purposes of this study. Only one institution has been studied during this research study. This study is further delimited to only one doctoral degree granting institution that has been designated with a Carnegie Classification of RU/VH (Research Universities/Very High Research Activity). Rather than reporting on the multitude of admissions practices across different universities, this study provided a focused examination of faculty decision making processes at one institution and the patterns of unconscious bias that may exist within their admissions committees. Next, the findings for this study were obtained gathering the perspectives of faculty admission committee members only. Therefore, the insights of graduate applicants or non-faculty members of the admission were excluded from this research. This approach was purposefully implemented to ensure that all participants had the same or similar perceptions on merit, assessment of applicants, and their role within the evaluative process.

Limitations

The following are limitations to this study design, which are outside of the scope of control of the researcher. A major limitation to this research is its qualitative study design and the small number of participants. Due to this factor, results are not generalizable to all graduate faculty at other institutions. Results are limited to one institution and it cannot be known if the faculty perspectives apply to faculty on admission committees at other universities.

Summary

The purpose of this study was to explore whether faculty implicit bias exists within the graduate admissions review process at a large public research university in the Southeast United States. Through an inquiry of graduate faculty decision making processes this study further sought to provide assessment recommendations to faculty reviewers to minimize bias during the admission review process. The intended significance is reflected in the fact that faculty implicit bias during the admission review process may disadvantage some applicants. In addition to these points, this study was limited by its qualitative design and small participants. The following chapter of this capstone project will highlight the contemporary scholarship of this field, demonstrating how these findings will help advance research and practice within the field of graduate admissions.

CHAPTER II – LITERATURE REVIEW

Faculty seek to be objective in their judgments and reviews, but unconscious bias may influence their opinions. Examples of faculty biases include having preexisting expectations on race, ethnicity, gender, fields of study, and prestige of prior institution among others (WISELI, 2012). It is important to understand that these implicit or unconscious associations can influence faculty reviewers' judgments during the admission review process and as such, result in admission decisions that may disadvantage some students while benefitting others. Faculty recognition of their own implicit bias and how it may influence their review of graduate applicants is critical in ensuring a fair and equitable review process for all students. While it is important to maintain autonomy within the application review process, graduate programs often rely on central processing and administrative units for guidance, training, and leadership. Therefore, a better understanding of the prior research on graduate admission committees and faculty bias within the academy is necessary to guide these efforts and introduce more holistic review constructs.

Decentralized Admissions Process

Many outside the university are aware of how the undergraduate admissions process is structured and may assume the graduate process is similar, but it is important to understand that the graduate admission evaluation process functions differently. Recently, researchers have taken interest in studying the differences between the decentralized nature of graduate admissions when compared to undergraduate admissions (Michel et al., 2019). Research conducted by Kent and McCarthy (2016) found that graduate admissions had a higher level of decentralization compared to other academic units and settings. More than 70% of respondents to the survey indicated a decentralized graduate admissions process at their institution. In most central

graduate offices, there are admissions enrollment goals that admission officers are working to achieve. At the undergraduate level, admissions processing and decisioning are all performed within one undergraduate admissions office by admission staff assessing an undergraduate applicant's merits using a set of predefined admission criteria based on university enrollment objectives. At the graduate level, applicants are applying directly to a program of study, not the university. Graduate programs are highly specialized and admission requirements vary; for this reason, faculty experts are the ones making the admissions decisions. There is consensus within the research that the decentralized nature of the graduate admissions processes poses a challenge for the central graduate unit (Kent & McCarthy, 2016; Michel et al., 2019). It is crucial that the central graduate admissions unit get faculty support for university-wide objectives, otherwise they may face unique obstacles implementing these goals if they are not in alignment with program admission goals.

Within the decentralized framework of graduate admissions, the graduate college or school acts as a central administrative hub, taking care of the application processing and other admission materials central to an application. Faculty admission committees are responsible for the review of graduate applications. Completed applications are most often comprised of standardized test scores, transcripts, statements of purpose, letters of recommendations, curricula vita, and writing samples. It is widely accepted that the purpose of these documents is for committee members to gauge an applicant's preparedness for graduate school, research potential, and ability to successfully complete the program and to contribute to the field (Michel et al., 2019). Applications might then be sent back to the centralized unit or graduate office to send out official admission decisions and ensure that applicants who are admitted meet all institutional

graduate policies and that the types of applicants being admitted are in alignment with larger institutional recruitment goals.

There is a high level of autonomy within both the centralized processing unit and the faculty admission committees for how they complete their work; however, both elements function as a loosely connected pair. Prior research has defined this relationship as a loosely coupled system. Weick (1976) revealed that within loosely coupled systems, linked system elements are responsive to one another but maintain separate identities. It is commonly suggested that it is most useful to view the organizational construct of educational intuitions as a loosely coupled system. Within loosely coupled systems, although one part of the system may make an organizational shift or change, the linked or coupled element adapts but maintains its own identity, process, and culture to an extent (Orton & Weick, 1990; Weick, 1976).

This phenomenon is evident in the coupling that exists between the centralized application processing unit and the faculty admissions committees. While the centralized unit maintains a type of authority over the application process and can make process changes, there is a unique and separate process that each individual graduate program maintains. Weick (1982) observed that within loosely coupled systems, administrators can centralize the system on key values and rules and the system can decentralize on other elements. Through these practices, administrators maintain oversight of the graduate admissions process functions in decentralized environments. Central admissions staff work with faculty to ensure that appropriate university admission processes are being implemented and that there is alignment on key admission targets and university enrollment objectives, while faculty maintain oversight of their own individual admission committee review processes.

Graduate Admissions Committees

Prior research has been able to shed light on the admission review and evaluative process among many graduate admissions committees as well as the faculty decision-making process. Although admissions committees are charged with giving a thoughtful and thorough review to all of an applicant's credentials, their increased reliance on graduate record exam (GRE) cut off scores as a way to accelerate their review processes has been well documented (Bauerlein, 2016; Potvin et al., 2017; Scherr et al., 2017; Wilson et al., 2019). The sheer volume of applications to review during a short admissions cycle coupled with the perception that high GRE scores are better indicators of success, creates a situation where faculty are using the GRE as a triaging or ranking tool rather than as a useful predictor of graduate school success (Wilson et al, 2019). This GRE score reliance also comes at a time when, increasingly, more graduate admissions committees move toward a concept known as a holistic review.

Holistic application review is generally understood to be the evaluation of a range of characteristics, including non-cognitive traits, during the admissions process. Prior research has concluded that non-cognitive traits may be equally as important as traditional measures such as the GRE in determining graduate student success and that these qualities may be better long-term predictors of student success (Kent & McCarthy, 2016). The holistic review has been used in many graduate programs as a way to mitigate overreliance on GRE score cut-offs and implicit bias by placing greater emphasis on leadership skills, research, grit, and other characteristics that would indicate a student might persist through a graduate program (Wilson et al, 2019). Although holistic application review has been gaining popularity as an evaluation mechanism, some admissions committees are still hesitant to change their review standards. There are misconceptions that holistic review increases faculty workload because of its increased focus on non-cognitive skills. Wilson et al., (2019), uncovered that implementing a holistic applicant

review process increased the diversity within the applicant pool without increasing workload for faculty committee members. Central admissions units could be of value in this regard, providing a model for holistic review that graduate admissions committees could implement within their own review processes.

Understanding what impacts GRE cut-off scores have on graduate diversity initiatives within the admissions review process is important to ensure alignment of faculty decision-making with larger institutional objectives (Boske et al, 2018). A great body of evidence has supported the claim that admissions committee members who attempted to save time during their admission review by using GRE score cut-offs had a detrimental effect on applicants, especially those from underrepresented populations (Posselt, 2014; Wilson et al., 2019). Faculty admission committees tend to favor applicants with stronger research backgrounds and focus less on students' non-cognitive traits (Posselt, 2014). According to Posselt (2014), applicants from underrepresented minority groups were more likely to have their application cut during the first round of reviews when faculty admission committee members adhered to strict quantitative merit-based admissions standards such as GRE scores. Additionally, overreliance on GRE scores by admission committees reduced an applicant's opportunity to pursue graduate school, recruit students from underrepresented groups, and led to the failure of developing a diverse and inclusive program (Potvin et al., 2017).

There is growing evidence that supports the notion that even when admissions committees prioritized diversity, a fixed mindset may impede their objectives. Within the context of admissions, a fixed mindset is viewing one's intelligence as static or unchanging and is measured largely using standardized test scores and GPAs (Scherr et al., 2017). Evidence of fixed mindsets can be seen in the many graduate programs that do have diversity objectives, or

who are trying to meet institutional diversity goals, but continue to maintain strict use of GRE and high GPA thresholds in their admission process (Posselt, 2014; Scherr et al., 2017). These fixed mindsets mold admissions practices and beliefs about which applicants will succeed within the graduate program. These beliefs are often rooted in bias, which excludes women and other minorities from being admitted into graduate programs (Scherr et al., 2017).

Trust networks are thought to play an important role within graduate admissions committees. These are networks in which faculty have a series of interpersonal connections and when people are tied together through similar values and resources (Posselt, 2018). Despite overreliance on quantitative metrics such as the GRE and GPA, there are times when faculty are not convinced of an applicant's potential for academic success by these elements alone. Posselt (2018) observed that faculty on doctoral admission committees are untrusting of academic institutions that they are unfamiliar with, and that faculty lean heavily on the reputations of recommenders and their relationships with those recommenders when they are uncertain about GRE and GPAs. As faculty continue to serve on admissions committees over time, they may begin to compare applicants to program alumni who share an institutional affiliation or other important qualities and invest in them despite a lack of true evidence of graduate program readiness (Posselt, 2018). This judgment often privileges applicants who are already advantaged in the process and serves as a way to supplement incomplete applications for admission or bolster faculty who may be apprehensive towards a particular set of GRE scores.

A considerable amount of research has been conducted on graduate admissions committees and their reliance on quantitative metrics, however, less is known on how faculty within various academic disciplines define the evaluation of applicants for admission. It is of interest to those working within centralized units and directly with faculty on admissions

processes to understand their perceptions on admissions evaluation, how these perceptions vary by discipline, and how to adapt business practices accordingly. Emerging research by Posselt (2015) uncovered three important findings in this regard. First, faculty used field norms to create standards of academic quality and organizational behavior. Second, these frameworks facilitated their decision making on admissions committees. Lastly, if formal admission policies were missing, the disciplinary related field norms of evaluation shape ad hoc policy within graduate admission and became part of more permanent organizational structures. These findings indicate that admissions committees need to have clear policies and structures in place, so that disciplinary norms and ad hoc policy does not overtake well-established admissions practices.

Bias in Academia

Most individuals attempt to be fair and unbiased in their assessments, but research has shown that unconscious beliefs can alter their judgments. These implicit assumptions were found to be separate from overt instances of prejudice and served to organize one's worldview by altering their perceptions of what is accurate (Banaji et al., 2003). Unconscious bias occurs when individuals assume certain qualities to be true of another individual or group after having been subjected to the idea that the individual/group behaves in a certain way. For example, the idea that women are more caring or empathetic than men, the notion that black men may be more violent than white men, or the idea that a physical disability also impairs one's mental abilities are all ways in which individuals may make unconscious associations (Banaji et al., 2003). These unconscious associations have a marginalizing effect on many within higher education.

The relationship between unconscious bias and gender stereotyping has been well documented in academia, especially among faculty. The effects of this bias can be seen when one considers that despite women earning terminal degrees at higher rates than men, they do not

promote or advance within academia at the same rates as men (Easterly & Richard, 2011). For advancement within faculty ranks, expectations for scholarly productivity are high. One theory for the disparity between men and women within faculty ranks is that the development of the tenure system was developed to disadvantage women. The development of many of the practices that have historically best served the men that worked within the university is still present today. Easterly and Richard (2011) noted that the tenure system was built on the expectation that faculty spent their first five to seven years working to achieve tenure status, which overlaps with the span of time many women are in their childbearing years. This practice puts women faculty at a disadvantage if they want to attain tenure while seeking to have a family. If the system is meant to maintain high levels of scholarly productivity, teaching, and other acts of service required for promotion while raising a family, many women faculty may choose to leave academia, keeping the institution a male-dominated space and continuing to drive patterns of unconsciously held beliefs.

Understanding the agent of unconscious bias within the context of higher education is important to ensure the fair and equitable treatment of all. To develop effective solutions to combat bias, it is necessary to understand both who developed this system of bias and how this discrimination affects those within it. Although the effects of faculty implicit bias within the academy have received considerable attention, less evidence has been produced on the ways in which faculty exhibit bias. Prior research has established that unconscious bias contributes to the overrepresentation of certain groups within certain academic fields, in particular the science, technology, engineering, and mathematics (STEM) fields (Hill et al., 2010). Emerging research has attempted to discern when this bias first occurs and what impacts it has within the organization. Milkman et al. (2015) uncovered that within all academic disciplines, faculty

demonstrate a preference towards white males and that faculty in higher-paying academic disciplines are less responsive to women and students from underrepresented populations from the time of prospective student inquiry through application submission. These findings suggest that unconscious bias may be influencing the decisions that faculty make within the organization daily, impacting admissions, research, and hiring practices. Bias begins at the earliest stages of entry, with faculty's roles as gatekeepers into the institutions and affecting formal and informal decisions within the university (Milkman et al., 2015).

Many studies in recent years have noted an environment that is unwelcoming for female faculty, particularly within the STEM fields. Even when women decide to pursue faculty ranks, they may be facing implicit bias within the academy. Research has shown that women researchers have less access to the resources they need (Blue et al., 2018). Naturally, if their body of scholarly work is smaller due to limited resources, women would remain underrepresented within the higher ranks of faculty. This evidence of gender bias within a woman's career begins early, often while they are still students. Blue et al. (2018) found that female physicists, particularly, female graduate students experience increased microaggressions from male faculty members. These experiences may result in women graduate students and faculty members lowering their career goals or relegating themselves to more stereotypical female roles.

It has been well established within prior studies that men and women apply the same bias towards gender within their evaluations for activities such as admission, hiring, and research grants (Judson et al., 2019; Kaatz et al., 2016; Moss-Racusin et al., 2012; WISELI, 2012). Moss-Racusin et al. (2012) noted that male and female faculty viewed a female student as less competent and worthy of being hired for a lab position than an identical male student and gave

her a smaller starting salary and less mentoring time. Since faculty are exhibiting these biases regardless of their gender, much of these practices can be attributed to unconscious bias and stereotyping. As research has previously concluded, attrition of women faculty is problematic (Easterly & Richard, 2011), which indicates these biases have impacts on female faculty as a whole and their promotion within the faculty ranks.

There is little argument on what the requirements are at most institutions for faculty promotion; however, understanding how faculty decide their career trajectory and how implicit bias plays a role in the promotion and tenure process is critical in correcting the disparities that exist. Women faculty spend more time teaching and mentoring students while their male colleagues spend more time on research. This phenomenon may be in part due to the previous findings that women researchers have less access to the resources that they need (Blue et al., 2018). A study conducted by Judson et al. (2019) concluded that faculty members were showing improvement for their implicit bias towards women in leadership positions, but women faculty were still significantly more likely than men to select the women for research roles. This finding is indicative that faculty are taking a conscious approach to gender as a consideration in their hiring practices, however more research is needed to understand why women in leadership and research are viewed differently.

While much research has been conducted showing that gender disparities for women within academic settings are due to unconscious biases, new evidence suggests that these biases can also hold women to higher or different standards than their male counterparts. Securing grant funding is particularly important for the continuation of research and the acceleration of faculty members' career paths. Kaatz et al. (2016) documented that reviewers at the National Institutes of Health may have held male and female principal investigators to different standards. Females

applying for grant renewals may have been disadvantaged in scoring, receiving lower priority over males' applications, and finally, language differences in the critiques and strengths sections may be the most important part in determining funding renewals. Although women received lower scores than their male counterparts, they received strong, favorable ratings within their written critiques from evaluators (Kaatz et al., 2016). These findings suggest that women may be held to a higher standard than their male colleagues, as men with similar applications received funding renewals. Research indicates that gender stereotypes have had an impact on the way reviewers were granting renewals, as prior literature showed that many gender-based assumptions were made in evaluative judgments and letters of recommendation (Trix & Psenka, 2003).

Researchers have presented extensive evidence to support that gender-based assumptions are often made by faculty and, as a result, women may be less likely to receive tenure, promotion, grant funding, or more likely be subject to microaggressions that alter their career paths (Blue et al., 2018; Easterly & Richard, 2011; Hill et al., 2010; Kaatz et al., 2016; Moss-Racusin et al., 2012) This alteration of career pathways or opportunity for women is often the result of unconscious bias and is exhibited by both male and female faculty. New and emerging research focused on women's attrition from the academy seeks to identify early factors of unconscious bias towards women by faculty. In a comprehensive review of graduate syllabi, Smith et al. (2020) uncovered that faculty assigned female-authored scholarship less frequently compared to the rates at which women publish, that instructors who were from marginalized groups assigned significantly more female-authored readings in their syllabi, and that among women, but not men, older instructors assigned more female-authored work. This knowledge is

an important contribution to the greater body of work related to women's underrepresentation in the academy and how these implicit biases contribute to male favoritism.

Summary

Faculty recognition of their own implicit bias and how it may influence their review of graduate applicants is critical in ensuring a fair and equitable review process for all students. When compared to the undergraduate admissions process, the graduate admission process is highly decentralized, creating unique challenges for central graduate admission units. Together, the central admission office and faculty admission committee function as a loosely connected system. This pairing enables administrators to maintain oversight of the graduate admissions process functions but allows the faculty admission committee autonomy to make decisions within their program.

Admission committees are expected to give a thorough and careful review to all applicants to their graduate programs, however increased reliance on the GRE to expedite application review has been well documented within the research (Bauerlein, 2016; Potvin et al., 2017; Scherr et al., 2017; Wilson et al., 2019). This reliance on the GRE as a cut-off mechanism comes at a time when many graduate admissions committees move toward holistic admission review. Overreliance on the GRE has been shown to have a detrimental impact on diversity initiatives and cut off applicants from underrepresented populations earlier in the application process resulting in a less diverse cohort (Posselt, 2014; Potvin et al., 2017). Research supports that even when admissions committees prioritized diversity, a fixed mindset may inhibit their objectives. These fixed mindsets can be seen in the many graduate programs that do have diversity objectives but continue to maintain strict use of GRE and high GPA thresholds within their admission review processes (Posselt, 2014; Scherr, et al., 2017).

When faculty are unable to make decisions regarding an applicant based on their academic credentials, the literature shows that trust networks serve an important role in the decision-making process. These are networks in which faculty have a series of interpersonal connections and when people are tied together through similar values and resources (Posselt, 2018). There is ample research to support that graduate admission committees may be over-reliant on quantitative metrics, but less is known about how faculty define criteria for admission. It is important for staff working within centralized units and directly with faculty on admissions processes to understand their perceptions on admissions evaluation and how these perceptions vary by discipline, so that they may adapt business practices and ensure alignment with larger institutional objectives.

Bias in academia has been well documented, specifically the relationship between unconscious bias and gender stereotyping among faculty. Researchers have found ample evidence to support that gender-based assumptions are often made by faculty and, as a result, women may be less likely to receive tenure, promotion, grant funding, or more likely be subject to microaggressions that change their career trajectories (Blue et al., 2018; Easterly & Richard, 2011; Hill et al., 2010; 2019; Kaatz et al., 2016; Moss-Racusin et al., 2012) Understanding who created this system of bias is important in order to add to further research and develop strategies to reduce further discrimination. Emerging research has shown that this system of unconscious bias can be seen through the decisions faculty make as early as an application entry point and impacts decisions made throughout the institution (Milkman et al., 2015). Implementing strategies to reduce bias at admission entry points may help reduce patterns of unconscious bias in other faculty decision-making processes and to further minimize future bias.

CHAPTER III – METHODOLOGY

This chapter presents a summary of the methodological approach used to explore if faculty implicit bias exists during the graduate admissions review process at the selected study site. The overall purpose of this study was to examine whether implicit bias exists within the graduate admissions process at a large public research university in the Southeast United States. The study further sought to identify what strategies, if any, faculty used to assess their implicit bias, and finally, this research assessed what support graduate faculty may need to better recognize and assess implicit bias during the graduate application review process. In this chapter, the researcher will describe the rationale for selecting a qualitative phenomenological design for examining the research questions, discuss the setting and participants, as well as describe data collection and data analysis procedures.

Research Questions

The methodology for this study was chosen based on the research questions. The investigation of the central phenomenon was conducted by exploring the following research questions:

1. How do graduate faculty assess their implicit bias when reviewing graduate applications at a public research university in the southeast United States?
2. What strategies do graduate faculty currently use to recognize or minimize their implicit bias when reviewing graduate applications within this public research university in the southeast United States?
3. What support do graduate faculty need to better recognize or address their implicit bias when reviewing graduate applications within this public research university in the southeast United States?

Research Design

This study employed the use of a qualitative, phenomenological research design to answer the research questions. A phenomenological research design provided for a greater understanding of the experiences and perceptions of the faculty members that serve on graduate admission committees (Creswell, 2007; Vagle, 2016). Qualitative researchers have a goal to understand how individuals both experience and make sense of their worlds (Merriam & Tisdell, 2015). Specifically, qualitative researchers are concerned with obtaining a more complete understanding of the phenomenon they are investigating by focusing on individual experience. This knowledge is obtained via interviews, focus groups, and examining other types of documents such as questionnaires (Roberts, 2010). In addition to those elements, qualitative research provides a more thorough description of what participants experienced within their roles and provided greater context to the phenomenon of faculty implicit bias being explored. Using interviews as the primary method of data collection, the researcher had an opportunity to convey outcomes in a richly descriptive manner, rather than through numbers alone (Merriam & Tisdell, 2015). Furthermore, this study met the qualifications for qualitative research as defined by Creswell (2012) by exploring a problem and developing a thorough understanding of the issue, directing the purpose and research questions at participant experiences, collecting data through interviews of a small number of individuals so that personal views could be ascertained, analyzing the data for overarching themes, and finally, providing an evaluative and comprehensive description of the findings.

Setting, Population, and Participants

The study was conducted at a large public Research 1 (R1) university in the southeast United States. The study site has an enrollment that exceeds 30,000 students which includes

approximately 10,000 graduate students. This setting provided a focused examination of faculty decision making processes at one institution rather than reporting on the array of processes that exist at multiple institutions. Given that this study examines implicit bias during the graduate admission review process, the sample population was graduate faculty who had served on admission committees. This technique was implemented with the intent to ensure that all participants had the same or similar perceptions on applicant merit and their role within the graduate admissions process. Participation in this research study was open to up to 20 full-time graduate faculty members. Representative of the general faculty profile, the participants in this study are faculty members who possess a terminal academic degree within their field or a related discipline, have tenure or are tenure track, have expertise within their field or a related field, or have substantial creative or scholarly activity within their field and may take part in a student's thesis or dissertation committee.

Instrument

Data collection in phenomenological, qualitative studies typically consists of in-depth interviews with study participants (Creswell, 2007; Merriam & Tisdell, 2015). Through the use of an interview, a more holistic understanding of faculty experience and decision making was able to be obtained. Merriam and Tisdell (2015) noted that by following a semi-structured interview format, the researcher can be responsive and ask follow-up or clarifying questions that occur during the interview process. For the purposes of this study, the interview guide consisted of 10 open-ended questions (Appendix A). The first subset of questions referred to the faculty members' overall perspective about admissions, the next set focused on faculty's perceptions about their implicit bias, and the third set focused on self-reflection, support, and training needed to better recognize their implicit bias. Prior to beginning any data collection procedures, all

appropriate approvals by the researcher's Institutional Review Board (IRB) were received (Appendix B).

Data Collection

Participants were recruited to participate via their faculty email addresses, which are publicly available on the institution's faculty directory. An email invitation was sent directly to the faculty by the researcher inviting them to participate in the study. All participants were provided and asked to agree to a consent form and informed that their participation was completely voluntary. A personal interview was then conducted with all graduate faculty members who met the study criteria and who volunteered to participate. The interview data were collected using the online video conferencing platform, Zoom. This study posed minimal risk to participants and all participants had the right to decline and withdraw participation at any time. Each of the 11 graduate faculty members completed an interview that lasted approximately one hour. During the interviews, the researcher used audio recording software to record the interviews so that they could later be transcribed, organized, coded, and analyzed for common themes, as recommended by experts in the field of qualitative research.

Data Analysis

The data analysis technique utilized for this study followed the phenomenological approach using the application of Colaizzi's method. Sanders (2003) notes that both a clear rationale for decision making and documenting decisions of the researcher during data collection and analysis increase a qualitative study's credibility. Stage one of Colaizzi's phenomenological approach for data analysis required transcribing faculty interviews in order to get an overall sense of their experience with the admissions process and their perceptions on implicit bias. Sanders (2003) suggests that in order to truly understand participants lived experiences, it is

necessary to read interview transcriptions several times. The next phase of data analysis included identification of common themes that could only be understood after having a greater understanding of the interview participants experiences with the admissions process and implicit bias. Once common themes were identified from the transcribed interviews, significant statements were extracted to formulate meaning on faculty perceptions of implicit bias during the graduate admissions review process. The remaining steps that occurred were grouping participant statements into common themes, organizing the formulating meanings into clusters, and describing the fundamental structure of the phenomenon (Colaizzi; 1978; Sanders, 2003).

The data were further analyzed using a structural coding method. Structural coding is a question-based code that acts as an indexing mechanism for the researcher. Saldana (2012) notes that structural coding is useful for nearly all qualitative studies, but especially those with multiple participants, semi-structured protocols, or exploratory studies gather topics or lists of major categories or themes. This technique allowed for commonalities in the data to be identified and for participant responses to be grouped within those clusters. Once the coding was completed, findings could be compared to the original research questions and results extracted.

Summary

The purpose of this research study was to discover whether faculty implicit bias exists within the graduate admissions review process at the study site. By using a qualitative, phenomenological research design, specifically through conducting interviews, the researcher was able to get a greater understanding of the graduate faculty members' experiences within their roles. Furthermore, by limiting the study to a single institution, the researcher was able to focus solely on the admissions practices within that specific organization with the intent to make

effective recommendations, rather than analyzing the multitude of processes that exist at different institutions.

CHAPTER IV – FINDINGS

The investigation of the central phenomenon in this study was guided by the research questions, which aimed to explore faculty perceptions on whether faculty implicit bias exists within the graduate admissions review process at a large public research university in the Southeast United States. Through the use of a phenomenological approach, findings obtained through interviews provided a more thorough account of participant experiences and greater context to the phenomenon being explored (Cresswell, 2007; Vagle, 2016). Data were analyzed using a structural coding technique that allowed for consistencies in the data to be identified and for participant responses to be grouped within those clusters. Once the coding was completed, findings were compared to the original research questions and results extracted (Saldana, 2012). This chapter presents an overview of participant demographics and a summary of findings.

Participant Demographics

Data for this study were collected through conducting guided interviews with graduate faculty members at the selected study site. This chapter discusses the findings that surfaced from the conversations with faculty members who serve on graduate admission committees and volunteered to discuss their perceptions on faculty implicit bias during the graduate admissions review process. As participation was open to up to 20 graduate faculty members that participate on graduate admissions committees, participants were solicited via direct emails to their institutional email accounts which were publicly available on the study sites faculty directory online. An initial group of 30 faculty members were recruited to participate, with a total of 11 agreeing to take part in the study. Each faculty member participated in an interview with the researcher; these conversations lasted no longer than one hour using the online video conferencing platform, Zoom. Approved IRB protocols were discussed with each participant

prior to beginning the interviews allowing for each participant the opportunity to ask questions pertaining to privacy and confidentiality and a chance to decline participation. After verbal agreement and signed consent forms were received, the guided interview began. Faculty participants represented a wide variety of fields and disciplines. Faculty interview participants volunteered from each of the following colleges and schools: Engineering and Computer Science, Chemistry, Education, Communication, Psychology, Business, Health Sciences, and Social Work. As presented in Table 1, the sample was an almost even ratio of female to male participants, five participants were female and six were male. Time of involvement with graduate admission committees varied among each faculty member, and many had rotated roles serving as both committee member and Program Director which serves to steer the entire application process for a particular program. A Program Director can be defined as a faculty member who has responsibilities for coordinating the activities within a department for all graduate students related to recruitment, admission, and advising.

Table 1*Demographic Data of Graduate Faculty Participants*

Participant	Discipline	Position on Committee	Gender Identified
1	Engineering	Program Director	Male
2	Engineering	Committee Member	Male
3	Communication	Program Director	Male
4	Sciences	Committee Member	Male
5	Education	Program Director	Male
6	Engineering	Program Director	Male
7	Sciences	Program Director	Female
8	Education	Program Director	Female
9	Business	Program Director	Female
10	Health Sciences	Program Director	Female
11	Health Sciences	Program Director	Female

Thematic Findings

Through data analysis, several broad themes and sub themes emerged. The themes identified in the responses for each research question are presented in a corresponding table. The purpose of this study was to better understand faculty decision making processes during the graduate admissions review process and to answer the question of whether implicit bias exists within the graduate admissions process at the study site.

Findings for Research Question One

The first research question that guided this study was: *How do graduate faculty assess their implicit bias when reviewing graduate applications at a public research university in the southeast United States?* This interview question was designed to highlight the ways in which graduate faculty recognize their unconscious bias when reviewing graduate applications, if they do. Interview questions 4, 5, 6, and 9 (see Appendix A) aimed to address this research question, and after undergoing coding analysis, three main themes emerged related to how faculty are assessing their implicit bias when reviewing graduate applications at the study site. The themes identified in participant responses for RQ1 are highlighted in the table below.

Table 2

Results of Themes and Sub-Themes related to Research Question 1

Research Question	Overarching Theme	Sub-Theme
<i>RQ1: How do graduate faculty assess their implicit bias when reviewing graduate applications at a public research university in the southeast United States?</i>	Bias Recognition	Departmental Expectations Change to Behavior
	Faculty Perceptions of their own Bias	Academic Biases Self-Identity
	Faculty Perceptions on the Bias of others	Challenges Coping Strategies

Theme One: Bias Recognition

Preexisting expectations on race, ethnicity, gender, fields of study, and prestige of prior institution are some examples of faculty bias (WISELI, 2012). Most participants in this study recognized that they held some type of bias, implicitly held or otherwise. As one participant shared:

You know I have... I have bias and I'm aware of that and one of the things that I learned in grad school, you know, was that one has to surface their biases, you know, and be able

to speak about them and identify them clearly if you want to be able to isolate that from your decision making (Faculty, Engineering).

This awareness was illustrated throughout the comments of other participants. As one interviewee noted: “I’m very aware of my own biases and so I tried to take steps to counteract them” (Faculty, Education). Although the majority of participants agreed to having some form of bias, a small number of participants questioned if they are biased. One participant pondered: “I mean, at least for me, maybe, being a person who identifies in a minority group, there's not that many, you know, underrepresented students from underrepresented groups like mine so it's, like, how can I be biased?” (Faculty, Engineering). Another faculty interviewee shared a similar thought: “We all know about that [implicit bias], we just don't feel like we have it” (Faculty, Sciences).

Several participants noted that their departments held the belief that high GRE scores are better indicators of success than other non-quantitative metrics, or that faculty are using a standardized test score as a triaging method rather than as a useful predictor of graduate school success. Several faculty members who had the ability to change admission criteria chose to maintain previously held standards recognizing it had become departmental expectation. As one faculty member shared:

I feel that it's an expectation of my department [to] maintain that level... so I might say that when I came in, I did possibly have a bias towards test scores because, I mean, part of it too is that we just don't have that much information in our applications (Faculty, Business)

Based on participants’ perspectives shared in the interviews, faculty at this institution are becoming much more aware of the multitude of research surrounding the GRE and how

overreliance on it may disadvantage certain applicants. Faculty who previously relied on standardized test scores as a predictor of success are thinking in new ways about how this may, in fact, be a type of bias. One participant described their experience with standardized test scores, saying:

I've seen enough students tank the [GRE], get in, and be our best students, so now I'm just, like -- I don't know what to do with this test... I would like to take steps to try to move away from a test bias. (Faculty, Business).

Another faculty member shared that their department is having similar conversations commenting that “We've had some conversations about the GRE and definitely with bias, you know, with regard to standardized tests and then the other conversation that's happening on a national level...” (Faculty, Health Sciences).

Over half of the participants noted that recognizing bias was not enough, that some systematic way of understanding bias is occurring, and that stopping it is critical. As one participant commented:

I've called to check my own biases and so now I consciously seek out evidence that my initial feeling might be wrong; whereas before I might say -- oh, a 2.0 GPA that's really low, I don't think they're going to be successful. But then I go -- wait... do they have strong recommendations, do they have any research experience, do they have evidence that despite these test scores and GPA, you can do this work? (Faculty, Education)

This view was echoed by another participant who shared that they: “Try to suspend judgment about elements like that [test scores] and then focus very closely on that personal statement and try to understand who the student is...” (Faculty, Sciences). In one case, a faculty interviewee reflected on the ways in which they had changed their behaviors since recognizing their bias:

I've been observing, you know my own bias and you know - practiced, you know, to try to reduce that or eliminate or expand. I've done years and years of diversity training and I continue to do that. I'm learning all the *isms* and, you know, as well as ableism, ageism, and racism, every type of bias, I try to reflect on those. (Faculty, Education)

Sub-themes that emerged from the broader topic of bias recognition included maintaining departmental expectations and changes to behavior. Despite many participants taking on their admissions role and the feeling of being expected to maintain the status quo set by their department, many reported reflecting on their bias and the need for change. As one faculty member shared, "I always say open your mind and don't admit or just have one type of students. Actually, having different types of students make your academic life more colorful" (Faculty, Engineering).

Theme Two: Faculty Perceptions of their own Bias

A second emergent theme identified was faculty perceptions of their own bias. Within this overarching theme, two sub-themes emerged related to how faculty perceived themselves as biased or not. A recurrent theme in the interviews was the notion of quality and ranking in regard to an academic institution. For many participants, there was a strong reliance on institutional reputation and ranking to help assist them in their decision-making processes. Many faculty contributors expressed clear recognition that their views held some bias against universities that are not categorized as Tier 1 research institutions. One participant commented: "I'm looking at the candidates and some of them have a degree from an online university or a university that's... not a Tier 1 and I'm just not impressed with this university and so this degree doesn't really hold water" (Faculty, Engineering). Negative perceptions of online or unranked institutions were shared by other participants. One interviewee shared:

It can be easy, especially in the doctoral processes, just to say, oh, you got your degree from bubble gum online university, you know, forget it, your masters, your bachelor's degree, it was a from a Tier 3 research institution, and it's not even ranked, and you know, no, I'm not even interested in you. (Faculty, Education)

Many participants also discussed their excitement when reviewing applicants from institutions they perceived to be reputable. One commented “They went to Purdue University, and they have it on their resume. Man, you know I'm gonna, I'm really gonna like -- I see that in a positive light, right?” (Faculty, Engineering). This perspective was later affirmed in the interview process:

Did they go to Notre Dame, that's a good school...you know so that's like a personal sort of, mental archetype that I apply to people, they could have been like, the worst student at Notre Dame but I'm going give them a call, you know, that's at least a reason for me to not have denied them but I'm going to get an interview out of that, you know? Before I deny them like -- so to me -- I think maybe I've noticed that about myself (Faculty, Engineering)

The participants overall demonstrated some form of bias against institutions they perceived to be less reputable but recognized the need to be cautious in this regard. As one participant put it: “You gotta look at not where they came from exactly, but what did they actually do? This person with all kinds of different biases can come in and affect the group that you end up accepting if you're not careful” (Faculty, Sciences). This sentiment was shared by another faculty member who stated:

...there's definitely certain biases that came in when it comes to their previous institution, are they are going to be equipped with other research experience and things... but because

I reflect on things a little bit, I think I'm able to catch them before it becomes a final decision. So, as you're reading through the application, you have the initial thought... You go -- is it really going to be an issue that they came from such and such institution? What do their letters [of] recommendations say relating to their capabilities and let's have a look at the GPA and the courses and the skills they say they developed as a result of taking those courses. (Faculty, Sciences)

The majority of participants agreed that their own personal identity did have some influence on their perceptions of applicants during the graduate application review process. At least half of the participants noted the importance of recognizing their bias. As one individual described it:

These are not things that you're aware that you're doing sometimes and very often have nothing to do with race or age or gender, you know, they have something to do with something else, some other favorite thing about you that does just happen to go along a little bit with age or race or gender that you never like thought about, right? (Faculty, Sciences)

Participants were clear that they believed their bias was less about gender or racial identities, and more about some other affiliation that they held. For example, one interviewee commented:

“Yeah, I'm first generation, no one I knew went to college at all... I did it all myself I had to figure out how to apply to school, so I remember how hard that is, so sometimes I'll be looking at that.” (Faculty, Education). Another stated: “I mean, if there's someone who went to a school that I'm familiar with or have a personal connection with, I tend to view that candidate in a brighter light.” (Faculty, Engineering). A small number of participants acknowledged that they reflect on a privileged identity that they may hold and how that impacts their practice. In talking about this issue, an interviewee stated:

I'm very aware that I work -- that I'm a white male. We know that certain fields in science are highly dominated by white men, and so we kind of have to reflect on that... And then what role does me being a white man play into that as representing people? And do people from underrepresented groups think they have the capacity to enter graduate school... if they don't see people who represent themselves? (Faculty, Sciences).

This notion of understanding privilege and how it may bias decision making was echoed by another participant.

I do think of myself as being a white male who has been in the system for three decades. That means that there are certain levels of privilege that I have and there's also a history that I need to let go of in that the way things were done. (Faculty, Sciences).

In almost all cases, participants indicated the importance of diverse admissions committees and continued reflection as a way to reduce bias. As one participant noted:

I think there is a natural tendency for folks that are more accepting of people that look and sound and act like you, if we're not careful, then you end up admitting people that look and sound and act like you... That's why we have a very diverse committee”
(Faculty, Education).

Theme Three: Faculty Perceptions on the Bias of others

The third emergent theme, faculty perceptions on the bias of others, created the most challenges for faculty participants. Most faculty interviewed did perceive their peers involved with the admissions process to have some level of bias. A participant shared their thoughts on where they believed this bias stemmed: “There are different educational background, different research area and the feeling is quite different, well, I can tell that and they all have, kinda, some

bias, from that you know.” (Faculty, Engineering). In one case, a participant shared their observations:

I do tend to see like, let's say a Brazilian faculty member, and then they have Brazilian students in their lab, right? I mean, that doesn't happen by accident, right? Well, we have a female faculty member and then they have more female grad students in their lab, you know, then the typical faculty member would have and that didn't happen by accident.

(Faculty, Engineering)

The majority of interviewees also reported difficulty in addressing perceived bias amongst their colleagues. One interviewee flatly put it:

The inherent thing about bias is that people aren't aware of it in themselves, and if they even pointed it out, I mean, that's tough to point out to somebody, right? And I think it's offensive and all that. I think people are not attempting to do that. (Faculty, Sciences)

Another participant offered up a similar thought, stating:

Of course, I [would] not openly discuss this issue because say, for example, after I look at an application and express mine [opinion] you may have bias... its maybe not 100% correct... Yeah, I would say, I mean this kind of stuff is very complicated” (Faculty, Engineering).

Almost every participant shared this outlook. Another faculty stated: “I think it would be hard to -- it would be hard to bring it up... and not also assume that it might change somebody's thought process” (Faculty, Health Sciences).

A common rationale for not directly pointing out an observed bias in others was because the disagreements that it created among committee members was often not productive. As illustrated in the comments made by one participant: “We have a full agenda...I don't want to get

hung up on that and have a disagreement, I should say an adversarial disagreement, but I wouldn't call out somebody to be like -- you made that decision because I think you're biased" (Faculty, Engineering). This perspective required faculty to implement strategies within their admissions committees to address issues of outright or implicit bias rather than address them directly. One faculty member shared their strategy:

It's important for program faculty to be aware that they could have blind spots. And the way I'm dealing with is sharing the demographic data and having that talk about it every faculty meeting in the fall so we think about it for the next year. (Faculty, Education).

Other participants shared how they approach issues of implicit bias in a more hypothetical context. One participant explained their approach is to take a more objective stance with faculty committee members. As they explained:

You know, hypothetically I have this person, they're borderline. This is the situation... What do you think? So there could theoretically be issues of implicit bias wrapped into that... I'll just kind of try to present it a little bit objectively and say this is the situation. What do you think? (Faculty, Business)

A small minority of participants did report that they would address issues of bias directly. In most cases, this seemed to be when the faculty could identify a bias towards test score or institutional affiliation. One participant explained when they would call out someone's bias as: "Specifically, if I think someone is locking onto just GRE or just previous program and previous advisor." (Faculty, Sciences). Another faculty member shared that they would speak up when they saw committee members exhibiting academic biases:

I hear a lot of just expressed outright biases against and some of it's true, some of it's not true, right? You've got to dig deeper... And I think that's what we're meant to do at the

admissions level and the hiring level... rather than just assume – OK, this completely online university, maybe I’ve heard some bad things about them or whatever, maybe they’re true. Maybe those bad things are true, maybe they’re not about this particular individual... Don’t jump to conclusions. So, I have spoken up a few times about that assumption before... Yeah, I’ve spoken up. (Faculty, Sciences)

Findings for Research Question Two

The second research question that guided this study was: *What strategies do graduate faculty currently use to recognize or minimize their implicit bias when reviewing graduate applications within this public research university in the southeast United States?* This research question was intended to showcase the methods that graduate faculty are currently employing while reviewing graduate applications to minimize their implicit bias, if any. Interview questions 1, 2, 3, and 10 (see Appendix A) sought to address this research question, and after data analysis, two main themes emerged related to how faculty are assessing their implicit bias when reviewing graduate applications at the study site. The themes identified in participant responses for RQ2 are highlighted in Table 3.

Table 3

Results of Themes and Sub-Themes related to Research Question 2

Research Question	Overarching Theme	Sub-Theme
<i>RQ2: What strategies do graduate faculty currently use to recognize or minimize their implicit bias when reviewing graduate applications within this public research university in the southeast United States?</i>	Application Review Process	Holistic Review Quality and Program Fit
	Committee Safeguards	

Theme One: Application Review Process

The application review process itself was the first theme to materialize from participant interviews. In order to minimize bias during the process, most participants had developed or were developing a holistic review process and ensured their admission committee had a collective understanding of review criteria prior to reviewing applications. One participant illustrated this stance by stating: “All of the program faculty are involved... We have interrater reliability, we talk about how to rate these [applications]... We have a very diverse committee to begin with it, so that helps reduce bias.” (Faculty, Education). Removing test score bias and overreliance on quantitative measures was discussed by nearly all interviewees. One participant explained their reasoning for moving towards a more holistic process:

The GRE has been shown to prepare people for some aspects of graduate life but not all. It doesn't prepare them for what the main focus of our research program is... We're trying to look at things more holistically. So, instead of having hard cut offs for GPA's, there's like a secondary reason for involving them, we care more about their research interests, do we have people within our institution that can align with those interests and, therefore, provide the correct mentorship. (Faculty, Sciences)

Another explained that a more holistic process ensured that applicants were provided with increased opportunity to be reviewed. By countering an applicant weakness in one area, it emphasizes their strengths in another. The participant stated: “Definitely you want to give them that opportunity and everything else 'cause we look at applications holistically, right? So it's not like focus on one thing, it's focused on everything” (Faculty, Health Sciences).

Several committee members indicated some method of rating applicants, whether through some formalized template or rubric or other internal document developed to score applicants

against program admission requirements. One participant illustrated this perspective by sharing: "We have a little rubric but, in the end, they just provide me one final score from each of our faculty members and then I average all of those scores and we take the top cream de la cream, you know, top 10%." (Faculty, Education). Faculty across disciplines shared similar methods and stressed the importance of creating a system that rated applicants against established criteria. As indicated by one faculty member: "The primary mode in my mental model is that all [applicants] are treated the same and the same sort of rubric applies to every single applicant, you know, and that's a very important driving feature of our, like, committee deliberations" (Faculty, Engineering). Every participant spoke about how elements such as research skills, grit, and program fit were often more important to them than other quantitative metrics. Talking about this issue, one participant commented:

We use the word *fit* and we emphasize fit, and we ask the committee to look at the personal statement and look at it very closely to understand what that student wants to achieve and to answer the question -- Do they fit well with what we do? I implore the group to look at that first and foremost and not to use GRE or GPA as immediate points of departure or rejection or acceptance. (Faculty, Sciences)

Another faculty member discussed this idea of reviewing an applicant's fitness versus GRE or GPA stating: "We certainly accept applicants with scores below that [GRE], if the student has an excellent essay and they look like they're a really good fit for the program" (Faculty, Education). During this discussion one faculty member very heavily emphasized using large hand gestures to state: "Most, most important is quality, quality of students, right?" (Faculty, Engineering).

Another shared a similar thought: "The applicants' potential to do research, so research potential is number one" (Faculty, Engineering). Some participants noted that they struggled with creating

a formalized process for their admissions committees to review applicants regarding less tangible concepts such as fit, research skills, and grit. As one participant explained: “We do have those kind of general guidelines which is consensus but... they can't get, you know, zero to five. That's something we try to make a more formalized process [that] can be quantifiable” (Faculty, Engineering).

Two of the 11 participants specifically mentioned post-review application protocols as a strategy for reducing bias and ensuring program diversity. In describing their process, a participant stated:

We stop each year and then we also work backwards to look at trends in our admissions and, if we're doing this right, then we should have diversity. And that is not just in gender or race, but in where the students come from, what their interests are, if it starts to look like one narrow set of attributes then we constantly are checking out even to the point where we stop and reflect on who we would consider semifinalists. We stop and look at - - well, how are we, you know, are we as open as we think we are? (Faculty, Sciences)

Another participant explained that although the study site tended to do well overall with diversity, it did not mean that individual programs did or could not suffer from faculty bias. They explained that they wanted to be aware of any issues for upcoming cycles in case corrective action needed to be implemented early. They explained: “I definitely do an analysis of the students we admitted and who accepted us, so I run those numbers to see how we benchmark against national data... and kind of see what sort of market we're attracting.” (Faculty, Health Sciences)

Theme Two: Committee Safeguards

The theme of the admissions committee as a safeguard against implicit bias was apparent during discussions with all participants. All interviewees made some mention of the importance of the admission committee to reduce implicit bias as well as the importance of a diverse admission committee. For several faculty participants, the admissions committee serves as a type of safety net against implicit bias. One faculty member shared their perspective: “Implicit bias of the faculty, you know, it's ah, I mean, we do consider that, it's a factor. I mean, I try to avoid that... so we have a graduate committee” (Faculty, Engineering). This recognition was shared through the thoughts of another participant:

I don't mind, I confess, sometimes I have the bias, but you need to find a mechanism to correct that, right, because everyone is unique, different experience, different perspective. I may not be able to judge students in the other research area, right... but for individual committee members or faculty members, they can express their concerns, speak aloud, it's not just one person's decision. If it's just one [person], that biases things very strong.
(Faculty, Engineering)

One participant defined their goals very simply as “our priority again in is fairness and having a diverse committee” (Faculty, Education). A common premise amongst participants regarding the admission committee was the fact that it allows for representation. As one of the interviewees summarized it: “We all kind of have our say within that committee, we represent multiple divisions so they're [the committee] not necessarily skewed with everyone being analytical” (Faculty, Sciences).

In discussing admission committees, one participant explained that during the application review process, a majority of the review involved what they referred to a *speculation* which

could ultimately bias the process. They appreciated that a committee could reduce this sort of speculative decision making, and therefore an individual's implicit biases to surface. They stated:

I really appreciate all the people that can provide additional information. For example, when you look at application lots of time, you have speculation... You say to yourself, "Hey, well she may do this, may do that." So, there is speculation. Sometimes the basis may not be true... maybe because of your bias, yeah, you think no, hey, this student cannot do well, right? And they [the committee] may say -- ah, lets get more information and have the right judgment. (Faculty, Engineering)

Findings for Research Question Three

The third research question that guided this study was: *What support do graduate faculty need to better recognize or address their implicit bias when reviewing graduate applications within this public research university in the southeast United States?* This research question was proposed to highlight the areas in which graduate faculty may need support to assess their implicit bias while reviewing graduate applications if any. Interview questions 7 and 8 (see Appendix A) sought to address this research question, and after data analysis, two main themes emerged related to how faculty are assessing their implicit bias when reviewing graduate applications at the study site. The themes identified in participant responses for RQ3 are shown in Table 4.

Table 4

Results of Themes and Sub-Themes related to Research Question 3

Research Question	Overarching Theme	Sub-Theme
<i>RQ3: What support do graduate faculty need to better recognize or address their implicit bias when reviewing graduate applications within this public research university in the southeast United States?</i>	Implicit Bias Training	Training as a Requirement Centralized Support Strategy

Theme One: Implicit Bias Training

The primary theme to emerge was implicit bias training. Two related sub-themes were identified related to the principal theme – training as a requirement and centralized support for training. Regarding the admissions process, no participant reported receiving implicit bias training related to reviewing graduate admissions applications. If training was received, it may have been specific to their discipline or some other required institutional training outside of the admission process. Many reported that the trainings that they received were specific to helping them be a more well-rounded faculty member, but not necessarily help them make better decisions related to reviewing graduate applicants. One faculty member shared a common opinion that was expressed by all participants stating:

...it's been training that I've taken that is designed to help me in all facets of being a faculty member, just not just for admissions, so the if the question is just about graduate students, no, but if it is about being a faculty member, yes. (Faculty, Sciences)

When discussing implicit bias training and whether support was provided by individual departments, similar comments were made by several participants. One simply put it: "I have not

had a specific training called implicit bias” (Faculty, Engineering). Another affirmed this lack of bias training specific to admissions and, when asked about receiving implicit bias training, they stated “Not to my recollection, no. Its more self-directed” (Faculty, Sciences). Most participants considered their knowledge of implicit bias during admissions to be learned through experience. As one participant illustrated: “Most of [it] I learned by myself and I learn from my past of students. I just sometimes said -- oh, I’m biased... So, basically, we learn from experience” (Faculty, Engineering).

Nearly all participants believed that implicit bias training was important for faculty who review graduate admission applications. Many participants emphasized the need for individuals who make decisions to take seriously how their attitudes and beliefs might influence the process. One faculty member shared their thoughts on this issue stating: ”I mean as an industry, I think that -- there should be guardrails you know, and maybe, guardrails in terms of the training, you know, to make sure that, you know, that the bias is not getting in the way” (Faculty, Engineering). This was echoed by another faculty member who shared their thoughts on the topic commenting: “Absolutely, I think they should get lots of this training and I think it's really important. Actually, I think it should be mandatory for people that make decisions” (Faculty, Education). Another participant noted that this topic often gets talked about when hiring, but not as much in admissions. In regard to training, they stated: “I think it's an excellent idea to have a training like that for everyone. I think it's good to have a refresher on that side” (Faculty, Health Sciences).

Although the majority held the view that graduate admissions committees should be required to take some sort of mandatory implicit bias training, many participants felt that more support and buy in would be necessary in order to make such a training effective. When asked

about the importance of implicit bias training for graduate admission committee members, one participant described what was reported by most interviewees:

Yes, they should. Whether they take it seriously or whether it be just another distraction in what other commitments they have would be my concern there, would they actually benefit from it? They should benefit from them, there should be that type of training involved, but you know the comments that you see at faculty meetings associated with other trainings that we have to do would suggest that there would be a reluctance there on people to take it seriously and I think there would have to be an image shift before it was taken more seriously. (Faculty, Sciences)

While participants felt that implicit bias training should be mandated, they overwhelmingly felt that their internal departments should not be responsible for facilitating it. Two common reasons were provided for a centralized unit facilitating the training. The first being that many participants did not feel confident that their departments could be objective enough to produce such a training. The second reason emphasized by the majority of participants was that the requestor of this training was critical. One described their thoughts indicating training “should be led by somebody at the graduate school or [central] level because if we use someone just within our program, there's a chance that that that person will not have the degree of objectivity and inclusivity programmatically” (Faculty, Sciences). Another participant illustrated this point by simply stating: “I think it could be helpful, I mean, I think, especially outside of school” (Faculty, Sciences). Participants felt that an implicit bias training mandate or request had more authority and chance of being taken seriously if it came from a centralized unit. As illustrated by one participant in their comments: “I think that the originator of the training request is important” (Faculty, Engineering). One participant summarized a common sentiment of the rest:

There is such weird power dynamic in this business. I've seen edicts from the Dean's office get ignored, but I've seen, you know, edicts from the Dean don't get ignored, you know, like, equally, I would think if this came from a centralized administrative authority, I think that would carry more weight. (Faculty, Engineering)

A small minority of participants felt that implicit bias training might not be helpful. In one case, a participant felt that the only thing that would help is reviewing previous admissions data to understand previous patterns of behavior. They commented: "I think what would be more important is some self-reflection on one's admission like looking at your demographics... is there any systematic pattern of bias there. I think that's real, more real than just doing some hypothetical training, honestly" (Faculty, Education). In the other cases, the participants indicated that the faculty in their field might not be open to such a training. For example, one participant commented:

I mean, I just don't think, you know, some of the math folks are gonna wrap onto that and have it stick very well. It's not how mathematicians think, for example, right? But I think it could be done in a way with examples that were relevant that would have an impact. (Faculty, Sciences)

Summary

Chapter Four provided an overview of the findings of this study on faculty implicit bias in the graduate admissions review process. Furthermore, this chapter presented the themes and sub-themes related to the research questions that guided this study and aided in exploring participant perceptions and experiences. The chapter began with a summary of participant demographics and each research question was portrayed so that findings relative to that question could be described. The investigation of the central phenomenon in this study was to explore

faculty perceptions on whether faculty implicit bias exists within the graduate admissions review process at the study site. This objective was achieved through conducting interviews with graduate faculty in order to garner their insights and by conducting a thorough analysis of their experiences.

CHAPTER V – DISCUSSION

The closing chapter of this phenomenological research study addresses the summary of findings, implications, study limitations, and recommendations for future research. The discussion of findings connects the study outcomes to the prior research and literature on this phenomenon. Implications for practice include recommendations for practitioners and strategies for how these results can be practically applied. Finally, this chapter closes with an explanation of study limitations and discussion of recommendations for future research and practice

Discussion of Findings

The purpose of this qualitative research study was to discover whether faculty implicit bias existed within the graduate admissions review process at a large public university in the Southeast. This study utilized the use of a qualitative, phenomenological research design to answer three research questions. A phenomenological research design provided for a more in-depth understanding of the experiences and perceptions of the faculty members that serve on graduate admission committees (Creswell, 2007; Vagle, 2016). The data analysis technique utilized for this study followed the phenomenological approach using the application of Colaizzi's method. Faculty interviews were conducted with 11 graduate faculty members that met study criteria.

Throughout the course of the study, six emergent themes were identified. These themes emerged through thematic analysis on the interview data and represent shared experiences among interview participants. For Research Question one, the themes of bias recognition, faculty perceptions of their own bias, and faculty perceptions on the bias of others were identified. For Research Question two, the themes of application review process and committee safeguards were identified. Lastly, for Research Question three, the theme of implicit bias training was identified.

Discussing Research Question One: Perceptions of Bias

The first research question that guided this study was: *How do graduate faculty assess their implicit bias when reviewing graduate applications at a public research university in the southeast United States?* The purpose of this research question was to emphasize the ways in which graduate faculty recognize their unconscious bias when reviewing graduate applications, if they do. Prior research, as covered in Chapter II of this study, has attempted to cover admissions committees and their overreliance on quantitative metrics as well as bias within the academia. This study both substantiated existing research on the topic and produced new findings related to faculty perceptions of their own bias. In relation to research question one, an unanticipated finding was that the majority of participants admitted to being aware of their bias as it relates to reviewing graduate applications. Many respondents understood that they held bias and tried to take steps to isolate their bias from their decision-making process to the extent it was possible. Particularly, participants admitted to reflecting on their own identities while reviewing applications but understood the need to be cautious in this regard. Although prior research by Banaji et al. (2003) revealed that unconscious beliefs can alter one's judgments and change one's perceptions of what is true, these findings suggest that faculty are interested in and aware of this topic and want to eliminate unconscious bias from their admission reviews.

Interview participants acknowledged that although they wanted to take steps to counteract their own bias, they encountered pressure to maintain existing outdated departmental admissions standards. For example, several participants noted their department committees believed that high GRE scores are good indicators of graduate school readiness. This finding broadly supports prior research that shows there is growing evidence to support the notion that even when admissions committees prioritized diversity, a fixed mindset may impede their

objectives. Evidence of fixed mindsets can be seen in the many graduate programs that have their own diversity objectives, or who are trying to meet institutional diversity goals, but continue to maintain strict use of GRE and high GPA thresholds in their admission process (Posselt, 2014; Scherr et al., 2017). Additionally, participants noted that even when they recognized they held a test score bias, many of their fellow committee members continued to maintain the use of the exam as an admission requirement as a type of triaging mechanism due to the volume of applications received. This finding supports the work of other studies which confirm that graduate admission committees have increasingly used GRE cut off scores to hasten their review processes (Bauerlein, 2016; Potvin et al., 2017; Scherr et al., 2017; Wilson et al., 2019).

A recurrent theme related to how faculty perceived themselves to be biased in the interviews was the notion of quality and ranking in regard to an applicant's previous academic institution. Many participants expressed a dependence on institutional reputation and ranking to aid in their decision-making processes. Interviewees expressed clear recognition that their views held bias against universities that are not categorized as Tier 1 research institutions. The majority of participants noted that they held some type of bias against institutions that they perceived to be less reputable. This evidence validates the work done by Posselt (2018) on trust networks, which observed that faculty on doctoral admission committees are untrusting of academic institutions that they are unfamiliar with and in the absence of information on the rigor of the organization, lean on their perception of trust instead.

Of all the themes identified within the study, faculty perceptions on the bias of others proved the most challenging for participants. Most interviewees acknowledged that they did perceive their peers involved with the admissions process to have some level of bias. Almost all participants admitted that they would not directly call out the bias that they perceived others to

have, even if it were detrimental to an applicant. As one participant indicated, time is limited and there is not time for such adversarial disagreements. These results corroborate the findings that bias begins at the earliest stages of entry, with faculty's roles as gatekeepers into the institutions affecting formal and informal decisions within the university (Milkman et al., 2015).

Discussing Research Question Two: Review Processes

The second research question that guided this study was: *What strategies do graduate faculty currently use to recognize or minimize their implicit bias when reviewing graduate applications within this public research university in the southeast United States?* This research question was designed to showcase the methods that graduate faculty are currently utilizing while reviewing graduate applications to minimize their implicit bias, if any. After thematic analysis, two themes emerged for this question – application review process and committee safeguards.

The theme of application review process as a means to reduce implicit bias was discussed by all participants. In an effort to reduce bias, the majority of participants had developed or were in conversations with their committees about developing a holistic review strategy. All respondents also reported ensuring that their committee had a collective understanding of admission review criteria prior to reviewing applications. The concept of holistic admissions is frequently discussed in the literature, with prior scholars noting the importance of holistic review in diminishing reliance on the GRE and lessening effects of implicit bias. Prior research has observed that non-cognitive traits may be similarly as important as traditional measures such as the GRE in determining graduate student success and that these qualities may be better long-term predictors of student success (Kent & McCarthy, 2016). Holistic review has been used in many graduate programs as a way to mitigate overreliance on GRE score cut-offs and implicit bias by

placing greater emphasis on leadership skills, research, grit, and other characteristics that would indicate a student might persist through a graduate program (Wilson et al, 2019). Every participant spoke about how elements such as research skills, grit, and program fit were often more important to them than other quantitative metrics. Almost all participants heavily emphasized research skills and program fit. Although many were open to reviewing non-cognitive traits, the emphasis on research skills is in line with prior research that shows faculty admission committees favor applicants with stronger research backgrounds (Posselt, 2014).

All interviewees made some mention of the importance of the admission committee to reduce implicit bias as well as the importance of a diverse admission committee. Thus, the theme of committee safeguards was one in which participants shared an overwhelming belief that the admissions committee could serve as a safety net against implicit bias. The interviewees held the belief that a diverse committee would reduce implicit bias in the admissions review process. This finding is interesting, given that faculty previously reported they would be unwilling to call out suspected bias. While extensive research has been done on graduate committees and their reliance on quantitative measures, additional research is needed in this realm as admissions committees and committee diversity vary by academic discipline.

Discussing Research Question Three: Training

The third research question that guided this study was: *What support do graduate faculty need to better recognize or address their implicit bias when reviewing graduate applications within this public research university in the southeast United States?* This research question was proposed to highlight the areas in which graduate faculty may need support to assess their implicit bias while reviewing graduate applications if any.

The theme of implicit bias training emerged throughout the discussions. No respondent reported having received any type of implicit bias training related to reviewing graduate admissions applications. Regarding implicit bias training, however, nearly all felt that this type of training was important to faculty reviewers overseeing the admissions process. Overwhelmingly, participants shared a belief that committee members take seriously how their attitudes and beliefs may influence the review process and thought that a bias training would be beneficial. Another important finding related to the theme of implicit bias training was that the majority of faculty respondents felt that implicit bias training should be made mandatory for those overseeing the review of graduate applications. Although nearly all felt training should be mandatory, they did not feel that their home departments should be the facilitators of an implicit bias training. This finding suggests that faculty buy in would only come from a centralized unit providing this type of training.

Implications

This study revealed several implications for faculty on graduate admissions committees and centralized admissions offices. These implications, as well as recommendations, are outlined in the subsequent sections.

Recommendations: Graduate Admission Committees

When compared to undergraduate admissions, the graduate admissions review process is highly decentralized. A central admissions unit is typically responsible for overseeing application processing and ensuring adherence to university admission regulations and policy, however graduate applications are filtered out to individual graduate programs for review. Graduate programs have the ability to set their own admission criteria and review process, which presents an opportunity for bias, implicit or otherwise, to be present in the process.

Given the autonomy graduate programs have when reviewing applications, it is necessary that faculty understand their roles as gatekeepers and how their practices ultimately shape the institution. Graduate admission committees should implement strategies to be cognizant of how their own identities and relationships shape their decision-making processes. The findings from this research indicated that many faculty reflected on their identity when making admission decisions. These individuals all have different training, statuses, and backgrounds that impact the selection process. Implementing admission evaluation techniques that remove a faculty decision maker's personal and social identifies from the review process are recommended practices to remove issues of implicit bias from the graduate admission review process. As many participants stated having bias towards specific institutions or being untrusting of particular institutions, the use of an evaluation rubric could allow admission reviewers to be more objective in their approach to admissions.

Additionally, graduate admission committees, particularly those serving as Program Directors, should aim to implement a systematic set of agreed upon review criteria to review graduate applicants. The findings suggest a need for committee members to better understand how their admission criteria, particularly quantitative metrics, predict graduate program readiness. As this study shows, many graduate faculty interested in looking at markers outside of the GRE hesitate due to the influence of other admission committee members or department expectations. Prior research shows that faculty who do not take quick measures to implement change in their review processes as well as acknowledge reliance on strict quantitative measures may end up admitting applicants who share similar affiliations to themselves and disadvantaging applicants whom they do not identify with (Wilson et al., 2019).

Participants in this study revealed the benefit of a holistic admissions review. Graduate admissions committees should aim to implement holistic review, which looks at an applicant's whole experiences rather than relying on markers such as GRE or GPA alone. The consideration of a multitude of applicant characteristics can help to mitigate implicit bias during the review process and ensure that all evaluation criteria have been fairly judged. Graduate admissions committees should seek to define what non-cognitive traits are useful in determining students' first year academic success and develop their holistic framework around these standards. Additionally, programs should explore how the GRE may be useful in a holistic context, rather than relying on it as sole indicator of success. Specifically, graduate admissions committees should identify within their holistic review framework how the GRE is used to determine academic qualifications so that there is consensus among committee members.

Recommendations: Centralized Admissions Offices

As has been previously noted, graduate admission committees have a high level of autonomy defining their own admission review processes, however they often seek support from the central admissions unit on admission process workflows, technology needs, and admission policy and best practices. Several recommendations result from this research for the central admission units.

First, this study has important findings that faculty are ready to discuss their bias and how it may impact the admissions process. Central admissions offices are often tasked with facilitating trainings or informational sessions and have the resources to extend their outreach across a variety of graduate programs. They should seek to develop forums where graduate faculty can discuss this topic amongst each other. This venue would serve to provide further insights on the challenges faculty face regarding implicit bias and allow for feedback and

discussion on techniques being utilized across disciplines to mitigate implicit bias. In addition to providing forums for discussion, centralized units should develop implicit bias training programs or provide implicit bias training resources and literature. The majority of participants noted that they found value in an implicit bias training, and many indicated that this type of training should be mandatory for faculty. Developing a sound training that assists graduate faculty in overseeing admissions, measuring their implicit bias, understanding their bias, and taking steps to move away from those biases within their decision-making is a critical way central units can provide support.

Although it is the responsibility of graduate admissions committees to define their academic qualifications and non-cognitive standards, central admission units could be of help in developing a holistic framework that ensures larger university objectives, policies, and regulations are considered. A recommendation would be for the central unit to work with graduate programs across disciplines to create a university wide model that could be applied for all graduate programs. As all participants echoed similar statements about how elements such as research skills, grit, and program fit were often more important to them than other quantitative metrics, assisting programs with quantifying these elements on a holistic model would ensure faculty buy in and provide a best practice approach for reviewing graduate applications.

Limitations and Recommendations

All research has limitations that are outside the scope of control of the researcher. This study utilized a qualitative, phenomenological research design to answer the research questions. Using interviews, the researcher had an opportunity to convey outcomes in a richly descriptive manner, rather than through numbers alone (Merriam & Tisdell, 2015). While the study design provided the researcher an opportunity to have in-depth conversations regarding the implicit bias

during the graduate admission review process, it ultimately contributed to a small sample size of 11. Due to this outcome, findings also may be limited to participants within this group. Future studies employing a quantitative design should be conducted so that results can be generalized to other faculty groups.

Much of the research surrounding graduate admissions and graduate admissions committees focuses on evaluation processes and how committees can decrease the use of quantitative metrics through the use of more holistic standards. While research has shown that holistic admissions can reduce implicit bias, more research is needed on how faculty perceive themselves to be biased and in what ways related to admissions. This study shows that an opportunity exists for a more comprehensive, quantitative examination of faculty perceptions of bias during the graduate admissions review process. Furthermore, such a study would allow for a myriad of experiences to be captured across disciplines and institutions.

Conclusion

The purpose of this study was to discover whether faculty implicit bias exists within the graduate admissions review process at the study site. It is the belief of the researcher that the phenomenon of faculty implicit bias during the graduate admissions review process is an important issue for consideration. This study highlighted the experiences of 11 faculty who serve on graduate admissions committees and provide valuable insights on this topic. The findings gained from this study have implications for not only graduate admissions faculty, but those working in centralized admissions units. These key stakeholders can use study findings to de-bias their own processes and provide opportunities to educate and train faculty who have graduate admission responsibilities.

A key finding of this study is that participants were ready and willing to discuss their bias as it relates to the admissions process and how they review applications. It the hope of the

researcher that this study will start a new dialogue related to faculty implicit bias within graduate admissions. As these unconscious associations can influence faculty reviewers' decision-making processes that may disadvantage some applicants, it is crucial to advance research that develops strategies to reduce implicit bias.

REFERENCES

- Banaji, M.R., Bazerman, M.H., & Chugh, D. (2003). How (un)ethical are you? *Harvard Business Review*, 3-10. <https://hbr.org/2003/12/how-unethical-are-you>
- Bauerlein, M. (2016). Discrimination at work. *Academic Questions*, 29(4), 466–471.
- Blue, J., Traxler, A.L., & Cid X. C. (2018). Gender matters. *Physics Today*, 71(3), 41-46. <https://doi.org/10.1063/PT.3.3870>
- Boske, C., Elue, C., Osanloo, A.F., & Newcomb, W.S. (2018). Promoting inclusive holistic graduate admissions in educational leadership preparation programs. *Frontiers in Education*, 3, 1-13. <https://doi.org/10.3389/educ.2018.00017>
- Colaizzi, P. F. (1978). Psychological research as the phenomenologist views it. In: R. S. Valle, & M. King (Eds.), *Existential phenomenological alternatives for Psychology* (pp. 48-71). Oxford University Press.
- Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Pearson.
- Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed). Sage.
- Easterly, D.M. & Richard, C.S. (2011). Conscious efforts to end unconscious bias: Why women leave academic research. *Journal of Research Administration*, 42(1), 61-73. <https://files.eric.ed.gov/fulltext/EJ955003.pdf>
- Hill, C., Corbett, C., & St. Rose, A. (2010). *Why so few? Women in science, technology, engineering, and mathematics*. Washington, D.C.: American Association of University Women. <https://files.eric.ed.gov/fulltext/ED509653.pdf>

- Judson, E., Ross, L. & Glassmeyer, K. (2019). How research, teaching, and leadership roles are recommended to male and female engineering faculty differently. *Research in Higher Education*, 60(7), 1025–1047. <https://doi.org/10.1007/s11162-018-09542-8>
- Kaatz, A., You-Geon, L., Potvien, A., Magua, W., Filut, A., Bhattacharya, A., Leatherberry, R., Zhu, X., & Carnes, M. (2016). Analysis of national institutes of health r01 application critiques, impact, and criteria scores: Does the sex of the principal investigator make a difference? *Academic Medicine*, 91(8), 1080-1088.
<https://doi.org/10.1097/ACM.0000000000001272>
- Kent, J.D. and McCarthy, M.T. (2016). *Holistic review in graduate admissions: A report from the Council of Graduate Schools*. Washington, DC: Council of Graduate Schools.
https://cgsnet.org/ckfinder/userfiles/files/CGS_HolisticReview_final_web.pdf
- Michel, R. S., Belur, V., Naemi, B., & Kell, H. J. (2019). *Graduate admissions practices: A targeted review of the literature* (Research Report No. RR-19-33). Princeton, NJ: Educational Testing Service. <https://doi.org/10.1002/ets2.12271>
- Milkman, K., Akinola, M., & Chugh, D. (2015). What happens before? A field experiment exploring how pay and representation differentially shape bias on the pathway into organizations. *Journal of Applied Psychology*, 100(6), 1678–1712.
<https://doi.org/10.1037/apl0000022>
- Merriam, S. B., & Tisdell, E. J. (2015). *Qualitative research: A guide to design and implementation* (4th ed.). John Wiley & Sons.
- Moss-Racusin, C.A., Dovidio, J.F., Brescoll, V.L., Graham, M.J., & Handelsman, J (2012). Science faculty’s subtle gender biases favor male students. *Proceedings of the National Academy of Sciences*, 109(41), 16474-16479. <https://doi.org/10.1073/pnas.1211286109>

- Orton, J., & Weick, K. (1990). Loosely coupled systems: A reconceptualization. *The Academy of Management Review*, 15(2), 203-223. <https://doi.org/10.2307/258154>
- Posselt, J. R. (2014). Toward inclusive excellence in graduate education: Constructing merit and diversity in PhD admissions. *American Journal of Education*, 120(4), 481–514. <https://doi.org/10.1086/676910>
- Posselt, J. R. (2015). Disciplinary logics in doctoral admissions: Understanding patterns of faculty evaluation. *Journal of Higher Education*, 86(6), 807–833. <https://doi.org/10.1353/jhe.2015.0030>
- Posselt, J. R. (2018). Trust Networks: A new perspective on pedigree and the ambiguities of admissions. *Review of Higher Education*, 41(4), 497–521a. <https://doi.org/10.1353/rhe.2018.0023>
- Potvin, G., Chari, D., & Hodapp, T. (2017). Investigating approaches to diversity in a national survey of physics doctoral degree programs: The graduate admissions landscape. *Physical Review Physics Education Research*, 13(2). <https://doi.org/10.1103/PhysRevPhysEducRes.13.020142>
- Rivera, L. A. (2018). Admitting bias in doctoral programs. *Contexts*, 17(2), 60–61. <https://doi.org/10.1177/1536504218776965>
- Roberts, C. M. (2010). *The dissertation journey* (2nd ed.). Corwin Press.
- Saldana, J. (2012). *The coding manual for qualitative researchers* (2nd ed.). Sage
- Sanders, C. (2003) Application of Colaizzi’s method: Interpretation of an auditable decision trail by a novice researcher, *Contemporary Nurse*, 14(3), 292-302, <https://doi.org/10.5172/conu.14.3.292>

- Scherr, R. E., Plisch, M., Gray, K. E., Potvin, G., & Hodapp, T. (2017). Fixed and growth mindsets in physics graduate admissions. *Physical Review Physics Education Research*, 13(2). <https://doi.org/10.1103/PhysRevPhysEducRes.13.020133>
- Smith, A.E., Hardt, H., Meister, P., & Kim, H.J. (2020). Gender, race, age, and national origin predict whether faculty assign female authored readings in graduate syllabi. *PS: Political Science & Politics*, 53(1), 100-106. <https://doi.org/10.1017/S1049096519001239>
- Steinpreis, R.E., Anders, K.A., & Ritzke, (1999). The impact of gender on the review of the curricula vitae of job applicants and tenure candidates: A national empirical study. *Sex Roles*, 41, 509-528. <https://doi-org.lynx.lib.usm.edu/10.1023/A:1018839203698>
- Trix, F. & Psenka, C. (2003). Exploring the color of glass: Letter of recommendation for female and male faculty. *Discourse & Society*, 14(2), 191-220. <https://doi.org/10.1177/0957926503014002277>
- University of California, San Francisco (n.d.). *Unconscious bias*. <https://diversity.ucsf.edu/resources/unconscious-bias>
- Vagle, M. D. (2016). *Crafting phenomenological research*. Taylor & Francis.
- Weick, K. (1976). Educational organizations as loosely coupled systems. *Administrative Science Quarterly*, 21(1), 1-19. <https://doi.org/10.2307/2391875>
- Weick, K. (1982). Administering education in loosely coupled schools. *The Phi Delta Kappan*, 63(10), 673-676. <http://www.jstor.org/stable/20386508>
- Wilson, M. A., Odem, M. A., Walters, T., DePass, A. L., & Bean, A. J. (2019). A model for holistic review in graduate admissions that decouples the GRE from race, ethnicity, and gender. *CBE - Life Sciences Education*, 18(1). <https://doi.org/10.1187/cbe.18-06-0103>

Women in Science & Engineering Leadership Institute [WISELLI] (2012). *Reviewing applicants research on bias and assumptions*. https://wiseli.wisc.edu/wp-content/uploads/sites/662/2018/10/BiasBrochure_3rdEd.pdf

APPENDIX A

Guiding Questions: Interview:

1. Tell me how you approach reviewing graduate applications to your program.
2. What criteria do you prioritize when reviewing graduate applications?
3. Does your department or unit have formal or informal conversation on application selection criteria?
4. In reviewing graduate applications, do you consciously reflect on any bias you may have?
If yes, please elaborate. Why do you do this? In what ways do you do this?
If no, please elaborate. Why don't you do this?
5. Do you reflect on your own bias?
If yes, please elaborate. Why do you do this? In what ways do you do this?
If no, please elaborate. Why don't you do this?
6. Do you reflect on your identity when reviewing graduate applications for admission? I.E. gender, ethnicity, nationality, etc...
If yes, please elaborate. Why do you do this? In what ways do you do this?
If no, please elaborate. Why not?
7. Did you ever receive training on assessing your implicit bias?
If yes, what type of training and who provided it?
If no, do you think you should receive it and who should provide it?
8. Do you think you need implicit bias training?
If yes, please elaborate. Why is this important?
If no, please elaborate. Why not?
9. Do you talk to your colleagues about issues of implicit bias during the admissions review process?
If yes, please elaborate. Why are these conversations important?
If no, please elaborate. Why not?
10. Have you ever found yourself in a situation where you were biased towards an applicant?
If yes, please elaborate.
What was the outcome? Where they admitted, not admitted?
Did you discuss the situation with your colleagues?
What steps did you take/are you taking to ensure this type of bias does not happen in future application review?

APPENDIX B

IRB Approval Letter

Friday, September 3, 2021 at 15:34:06 Central Daylight Time

Subject: IRB-21-150 - Initial: Sacco Committee Letter - Expedited and Full
Date: Wednesday, June 2, 2021 at 2:56:03 PM Central Daylight Time
From: do-not-reply@cayuse.com
To: Brandy Pieper, Masha Krsmanovic
Attachments: ATT00001.png, ATT00002.png

Office of
Research Integrity



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NOTICE OF INSTITUTIONAL REVIEW BOARD ACTION

The project below has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services regulations (45 CFR Part 46), and University Policy to ensure:

- The risks to subjects are minimized and reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered involving risks to subjects must be reported immediately. Problems should be reported to ORI via the Incident template on Cayuse IRB.
- The period of approval is twelve months. An application for renewal must be submitted for projects exceeding twelve months.

PROTOCOL NUMBER: IRB-21-150

PROJECT TITLE: Faculty Implicit Bias During the Graduate Admission Review Process

SCHOOL/PROGRAM: School of Education, Educational Research and Admin

RESEARCHER(S): Brandy Pieper, Masha Krsmanovic

IRB COMMITTEE ACTION: Approved

CATEGORY: Expedited

7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

PERIOD OF APPROVAL: June 2, 2021

A handwritten signature in cursive script that reads "Donald Sacco".

Donald Sacco, Ph.D.

Institutional Review Board Chairperson

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