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An Intersectional Study of Perceived Academic Climate and the Imposter Phenomenon in Psychology Students

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ABSTRACT

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Social exclusion in higher education can occur at multiple levels (e.g., systemic, institutional, interpersonal, individual), and individuals simultaneously hold multiple social identities that could influence their perceptions of academic climate. The current study utilized a mixed-methods convergent parallel design to explore the impact of multiple social identities, perceptions of academic climate, and the imposter phenomenon among psychology students. In the quantitative portion, participants (N = 142) completed an online survey related to gender centrality, academic climate, and imposter phenomenon. Gender group comparisons revealed that cisgender men indicated poorer perceptions of climate than cisgender women and gender minorities, but imposter phenomenon was higher among cisgender women and gender minorities than cisgender men. However, perceived academic climate did not mediate the relationship between gender and the imposter phenomenon nor did gender centrality moderate the indirect path of gender on imposter phenomenon through perceived academic climate. In the qualitative portion, participants (N = 14) provided insight, through semi-structured interviews, on the connectedness of perceived academic climate and imposter phenomenon based on the culmination of their multiple social identities. Six themes were identified through reflexive thematic analyses (1) benefits of psychology; 2) barriers of psychology; 3) privileged perspective; 4) stereotypic view of psychology; 5) imposter phenomenon connections; 6) enhancing and maintaining success). Integrated findings suggest a power shift within the context

of psychology as individuals that hold traditionally subordinate social identities reported positive perceptions of academic climate, while individuals that hold traditionally dominant social identities perceived academic climate more poorly. However, positive perceptions of academic climate failed to combat the internalization of negative societal stereotypes of those in traditionally subordinate groups, which was associated with experiences of the imposter phenomenon. Future directions and implications for translating findings are discussed.

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Chapter 1. Introduction

Initiatives to increase diversity, equity, and inclusion within the higher education system have grown over the last 50 years (e.g., Bowman, 2009; Hurtado, 2007; Patton et al., 2019). Despite these efforts, reported perceptions about higher education environments vary among individuals. More specifically, individuals belonging to minority groups, such as people of color (POC), lesbian, gay, bisexual, transgender, queer (LGBTQ), and women perceive higher education settings more negatively than their majority group counterparts (e.g., Ancis et al., 2000; Cress, 2008; Pyke & Janz, 2000; Yost & Gilmore, 2011). Social group (a number of individuals sharing certain characteristics and associating with one another through common motives, goals, norms, and values; Sherif, 1936) membership and the extent to which an individual identifies with that group may impact the way they view their surroundings. Likewise, perceptions of higher education climate can occur by way of individual-level (e.g., oneself), interpersonal-level (e.g., interactions with others), institutional-level (e.g., educational settings), and systemic-level (e.g., higher education system as a whole). Taken together, greater understanding of differences in perceptions of higher education environments may be achieved by investigating the complexity of social identities and perceived climate in higher education at multiple levels.

Dominant Groups, Subordinate Groups, and Multi-Level Influence

Broadly, social identities can be viewed as *dominant* (e.g., power, privilege, higher social standing) or *subordinate* (e.g., lack of power, lower social standing) within a given society. Notably, dominant groups do not always coincide with numerical majorities, as social groups with fewer numbers may hold power (Link & Phelan, 2001). The dominant and subordinate dichotomy leads to power differentials at multiple levels within society (e.g., institutional,

interpersonal, individual). Moreover, inequality at the institutional-level creates power and oppression on a wide-reaching scale by reinforcing dominant societal norms. The foundation of the United States lies in beliefs that support White supremacist, patriarchal, and heteronormative ideals, which creates a systemic advantage for some social groups and disadvantages for other social groups (Bowleg, 2012a, 2012b; Purdie-Vaughns & Eibach, 2008). Institutional-level structures, such as higher education and healthcare, maintain dominant societal norms that can lead to oppression among those who do not meet a particular identity criterion (Case, 2017), as well as influence common forms of discrimination at the interpersonal-level, such as racism, sexism, or heterosexism (Bowleg, 2012a, 2012b). Discrimination from the institutional and interpersonal levels may result in devaluation and internalization of negative feelings at an individual-level (Frost, 2011).

Consideration of a multi-level hierarchy, consisting of several layers (e.g., systemic, institutional, interpersonal, individual), in approaching research could uncover mechanisms often overlooked in analysis, particularly in the field of psychology. Much of the scholarship within psychology revolves around individual and interpersonal level factors, because larger level factors can be harder to assess (e.g., Parent et al., 2013). With this in mind, the current work attempted to highlight the compounding impact of the hierarchal system in creating circumstances of power and oppression as related to social identities. In particular, investigating the hierarchal system in the context of higher education to determine how ideals within the higher education system (as a whole) contribute to institutional practices, interpersonal interactions, and individual perceptions and outcomes. The multi-level hierarchy serves to produce instances of power and oppression among individuals within a system, so dominant and subordinate social identities will also be considered. Individuals belong to multiple social groups,

consisting of both dominant and subordinate groups, which means people hold a combination of both dominant and subordinate social identities. Thus, this study compared social identities between individuals on the basis of gender (e.g., cisgender women, cisgender men, gender minorities), but it also analyzed how an individual's multiple identities work together.

Academic Exclusion

Exclusion in Higher Education

Coupled with power differentials at multiple levels, *social exclusion* (compounding problems of discrimination, social inferiority, and deficient social participation, which may lead to lack of status, economic opportunity, and repeated rejection; Sayce, 2001) occurs at individual, interpersonal, institutional, and systemic levels (Appleton-Dyer & Field, 2014), and also varies based on history, time, and place (Todman et al., 2013). Higher education or post-secondary institutions serve to extend previous knowledge and increase employment, earning, and non-pecuniary opportunities (Oreopoulos & Petronijevic, 2013). However, due to a foundation built on exclusionary principles, the higher education system in the United States reinforces inequality between social groups (Brown, 2004; Helm et al., 1998). Barriers to accessibility of higher education typically relate to the social identities individuals hold. For example, a large proportion of first-generation students belong to societally marginalized social groups (e.g., racial/ethnic, gender, age) and come from lower socioeconomic status (SES) backgrounds (e.g., Bui, 2002; Hertel, 2002). Because of the expenses related to higher education, these individuals frequently hold jobs to help them pay for their education (Jehangir, 2010) while simultaneously keeping up with coursework. Given their first-generation status, they may hold minimal information about higher education processes, which could contribute to lower graduation rates as compared to their non-first-generation counterparts (Engle & Tinto, 2008). In

general, unjust circumstances may contribute to the disparities in academic outcomes (e.g., retention, graduation rates) that exist between dominant groups and subordinate groups (e.g., Dumas-Hines et al., 2001; Goenner & Snaith, 2004; Quarterman, 2008). Additionally, individuals holding social identities with historical acceptance in higher education settings often overlook their advantageous position, since the system caters to them (Helm et al., 1998). Failure to recognize systemic power dynamics may exacerbate challenges faced by traditionally marginalized groups in higher education due to increased invisibility and lack of interpersonal and institutional support.

Exclusion in Science

Considering the exclusionary nature of higher education at the institutional level, academic disciplines could start to adopt aspects of this limiting culture. In particular, the discipline of science may inherently restrict both research on diverse groups and representation of those groups in the work force. The testable methodological approach that dominates this discipline grants an inaccurate perception that science undoubtedly equals truth and fact. Although scientific methodology encompasses a systematic, objective approach to answering questions, items that fit outside the scope of testability through this specific methodology tend to hold less value in comparison to the questions that readily yield concrete answers. In other words, scientific questions serve to offer insight into phenomenon that occur in a vacuum, and these inquiries generally fail to recognize external factors, such as the cultural, historical, and social contexts (Marecek, 1993). Recognition of external factors can be difficult to assess, especially in lab settings, but neglecting does not allow researchers to grasp the entirety of the tested phenomena.

As with the aforementioned restrictiveness often present when approaching research in science, limits also exist in the representation of diverse individuals within this discipline. While women and racial minorities previously endured exclusion from fields of science, technology, engineering, and mathematics (STEM), an increase in individuals holding these social identities have entered STEM in recent years (National Science Foundation, 2021). Despite the influx of STEM pursuits from women and racial minorities, literature suggests that these groups remain underrepresented (Blackburn, 2017; Corbett & Hill, 2015; Hill et al., 2010). Additional barriers faced by these groups include lack of belonging (Leath & Chavous, 2018; Rosenthal et al., 2011; Smith et al., 2013; Thoman et al., 2013), insufficient support (Leath & Chavous, 2018), affordability issues (Engberg & Walniack, 2013; Packard et al., 2011), and attrition (Hurtado et al., 2007; Seymour & Hewitt, 1997).

The extensive amount of research documenting potential challenges that women and racial minorities may endure emphasizes the importance of addressing institutional factors. By combatting the exclusionary nature of both science and higher education, systemic changes would help take the burden off of the individual and provide equitable opportunities for underrepresented social groups. Moreover, similar to women and racial minorities, lesbian, gay, bisexual, transgender, and queer (LGBTQ) individuals in STEM lack representation, endure unsupportive environments, and are at risk for attrition (Freeman, 2020). Much of the scholarship assessing underrepresented groups in STEM focuses primarily on women and racial minorities, with a minimal amount on the experience of LGBTQ individuals in STEM fields. Failure to acknowledge additional groups and their experiences in STEM contributes to the issue of invisibility and exclusion.

Exclusion in Psychology

Psychology applies scientific methodology, which warrants its acceptance as a basic science. Nonetheless, psychology often lacks acknowledgement as a STEM discipline (American Psychological Association, 2010). Failure to consider psychology as part of STEM further reinforces the exclusionary culture of science as an academic branch by highlighting the idea that science occurs in a vacuum. More specifically, psychological research often seeks answers to questions that happen on individual and interpersonal levels with utilization of generalizable quantitative methods while neglecting applied methodologies to assess factors outside of this narrow scope (Magnusson & Marecek, 2017; McCormick- Hunh et al., 2019). Failure to recognize widescale factors, such as historical, systemic, and institutional-level influence, can prevent full understanding of experiences. Compared to the published work on STEM exclusion, research on exclusion in psychology remains minimal. Notwithstanding, scholarship in this domain mirrors that of STEM as documented discrimination in psychological research and work force implications exist.

While the number of women within psychology supersedes that of men, the foundation of the discipline relies on sexist practices (Gannon et al., 1992; McHugh et al., 1986; Marecek, 1993; Willis & Jozkowski, 2018, 2019). McHugh et al. (1986) identified three barriers to sex-fair research in psychology, which included "excessive confidence in traditional methods of research" (e.g., quantitative methodology), "bias in exploratory systems" (e.g., imprecise and variation in terminology, such as interchangeable use of sex and gender), and "inappropriate conceptualization" (e.g., collapsing groups and generalizing experiences). As highlighted by these barriers, the methodology and reporting of psychological research contribute to sexism in the discipline. Likewise, Marecek (1993) proposed three types of marginalization placed on

women through clinical psychology, comprised of "the disappearing woman" (e.g., invisibility/ lack of contextual recognition), "silences: politics of diagnosis" (e.g., pathologizing emotions to control marginalized groups), and "anxious rhetoric of science" (e.g., methodology as harmless and progressive). Although scientific methodology often presents as benign and objective in clinical psychology, overlooking contextual circumstances related to diagnoses and generalizing certain emotions to specific social groups puts the blame on the individual without consideration of wide-scale forces.

Other scholars previously investigated sexism in psychology through analysis of published journal articles. For instance, Gannon et al. (1992) assessed psychology articles published at five-year intervals between 1970 and 1990 (i.e., 1970, 1975, 1980, 1985, 1990). At first glance, results indicated a decrease in sexism with time as more females first authored publications in 1990 than in the other years examined. However, the journals yielding the greatest number of female authors in 1990 were set to anonymous view by default. Despite strides in combatting sexism through first-authored publications, the minute visibility of these accomplishments continues to marginalize these individuals. In another study, Willis and Jozkowski (2018) also examined published articles by comparing linguistic sexism occurrences in sexuality, health, and psychology journals. Findings revealed that psychology journals demonstrated the most bias toward 'male-firstness' (e.g., masculine terms before feminine terms) in writing, as masculine terms were presented first 84.8% of the time. Utilization of male-firstness could lead readers to put greater value on masculine representation with the potential to reinforce ideals of masculine superiority and feminine inferiority.

Minimal research has yet to specifically explore the discriminatory experiences of subordinate groups in relation to careers in psychology. However, work by Settles and

colleagues (2020, 2021) recognized the nature of epistemic exclusion (devaluation of scholarship or lack of scholar credibility that occurs due to social identity and straying away from mainstream practices of the discipline) within higher education as well as psychology as a discipline. This body of work yielded findings which predicated that social justice focused research and failure to implement traditional disciplinary methodology was associated with lack of credibility in departmental and publication hierarchies (Settles et al., 2020, 2021). Moreover, individuals belonging to subordinate groups most readily gravitated toward approaches that failed to coincide with traditional methodologies (Settles et al., 2020, 2021). Individuals with dominant group membership may lack understanding in power differentials due to their own social position (Helm et al., 1998; Neville et al., 2001), which could explain why they are less likely to approach research in a non-traditional fashion.

Perceived Academic Climate

Systemic exclusion in the higher education system through academic disciplines can impact the experiences and perceptions individuals have of college and university facilities. Campus climate involves attitudes and practices that influence inclusion and success of individuals and social groups within higher education institutions (Rankin & Reason, 2008). Even though the prominent focus of campus climate relates to the overall dynamic of an institution, interpersonal interactions and individual perceptions help to comprehensively shape the climate. In addition to structural components at the institutional-level, all members on a campus play a role in the overall climate (Hart & Fellabaum, 2008). Stemming from the broad definition of campus climate, perceived academic climate refers to impressions that individuals form of academic communities (e.g., higher education institutions, disciplines) based on their interpretation of how the corresponding community reinforces or undermines student acceptance

(Pyke & Janz, 2000). While perceived academic climate relies on subjective views, as opposed to objective views, of individuals, research indicates that attitudes are typically shared by those with similar social identities within the institution (Hulin et al., 1996). Thus, assessment of perceived academic climate could provide insight on how different social groups think of a particular academic community and may help to uncover reasons behind academic disparities between groups (e.g., Seibert et al., 2004). Regardless of research indicating uniformity among social groups in perceptions of academic climate, the individual-level perspective should not be neglected, as personal biases and the other social identities a person holds could contribute to varying viewpoints among groups.

Perceived Academic Climate Components

Institutional-level, interpersonal-level, and individual-level mechanisms work together to create climate (Peterson & Spencer, 1990; Pyke & Janz, 2000; Seibert et al., 2004), so multiple components should be considered when examining perceived academic climate. Many climate studies tend to study climate too narrowly by focusing on a single level or outcome (e.g., see Hart & Fellabaum, 2008 for review), rendering the studies deficient to measure the interplay among institutional, interpersonal, and individual level dynamics. Too narrow of an approach shifts the focus to separate examinations per level, leaving the full picture of climate unclear. By contrast, the approach of identifying multiple types of discrimination at varying levels offers greater understanding of the complexity of climate, and how individuals and social groups may hold similar perceptions in some contexts and varied perceptions in others. Specific to perceived academic climate among individuals pursing post-secondary school, Pyke and Janz (2000) targeted multiple types of discrimination (safety perceptions, course material, climate students experience, sexist attitudes, climate students hear about) at varying levels (institutional,

interpersonal, individual) in their formulation of the Perceived Chilly Climate Scale (PCCS). The researchers strived to create an instrument that assessed perceptions at multiple levels to gain comprehensive understanding of how several factors work together to shape overall perceptions. Higher education may not just create, but it can also maintain social exclusion from earlier stages of education (Lucas et al., 2001), so other scholars have considered the dynamic nature of academic climate by assessing various levels and mechanisms at different stages. For instance, Konold et al. (2018) used a tripartite model to examine the relationship among academic climate structure and support (institutional and interpersonal levels), student engagement (individual level), and academic achievement of high school students, in which they concluded that higher levels of structure and support were associated with greater engagement and in turn academic achievement. Looking at 5th grade elementary school students, Koth et al. (2008) investigated perceptions of academic climate through analysis of school factors (institutional level), classroom factors (interpersonal level), and demographic variables (individual level), and all factors were deemed significant predictors of perceptions of academic climate. Ultimately, recognition of the interplay between multiple levels could provide insight in targeting both small-scale and wide-scale factors, offering potential for thorough change in the education system.

Perceived Academic Climate and Social Group Identities

Although individuals perceive academic climate differently based on their multiple social identities (Hurtado et al., 2008), researchers previously treated students as a homogenous group instead of accounting for other identities they may hold. These studies acknowledge variation of perceived academic climate by comparing dominant and subordinate social groups. Findings indicate that students of color (SOC), particularly African American students, perceive academic

climate more negatively than White students (e.g., Ancis et al., 2000; Helm et al., 1998; Strayhorn, 2013; Worthington et al., 2008), female students perceive academic climate more negatively than male students (e.g., Cress, 2007; Pyke & Janz, 2000), and LGBTQ individuals perceive academic climate more negatively than heterosexual and cisgender students (e.g., Cress, 2007; Yost & Gilmore, 2011). Ancis et al. (2000) compared student perceptions of climate among African American, Asian American, Latino, and White students, and they revealed discrepancies between perceptions of climate between White students and students of color. Specifically, White students reported minimal racial tension, fewer expectations to conform, perceptions of a respectful environment, and greater satisfaction. Although White students reported positive climate perceptions more than the students of color, African American students reported negative perceptions more consistently than all of the other groups. Regarding gender comparisons, results from both Cress (2007) and Pyke and Janz (2000) suggested that women perceive climate more negatively than men, but Cress (2007) focused on interpersonal dynamics while Pyke and Janz (2000) accounted for climate at multiple levels. Last, neither study compared perceptions of gender minorities and cisgender students.

In sum, this body of work reveals that individuals with dominant social identities perceive academic climate more positively than those with subordinate identities, which aligns with the notion that dominant group members often fail to recognize different types of discrimination at varying levels (Helm et al., 1998; Neville et al., 2001). Because the higher education system caters to dominant groups at the institutional-level, individuals of these groups likely have fewer experiences with discrimination at the interpersonal-level and do not realize the advantages associated with their dominant group membership at the individual-level. However, a limitation of this research stems from the overemphasis on examining interpersonal

and individual-level dynamics, with little attention to the institutional-level factors. Without acknowledgement of larger level factors, the full picture remains obscured. Similarly, while the literature highlights perceived academic climate in regard to social group differences, very few studies look at multiple social identities (e.g., Cress, 2007). Individuals hold various social identities to work together to shape their perceptions, so focusing on a single-axis of an individual's identity can lead to inadequate conclusions. Lastly, some groups have received little attention to no attention in this research (e.g., gender minorities), which contributes to systemic invisibility.

Implications and Cost of Poor Academic Climate

The historical favoritism granted to dominant social groups (e.g., White, male, cisgender, heterosexual) within the higher education system puts subordinate social groups at a systemic disadvantage, and could impact subordinate group members' institutional-level, interpersonal-level, and individual-level experiences. Furthermore, discrimination at the institutional and interpersonal levels may result in internalized mistreatment (Frost, 2011). For example, Budge et al. (2019) determined that nonbinary students were more likely to report internalized stressors when they perceived the academic climate more negatively. These findings reveal a link between larger level forces of climate and individual outcomes. Perceptions of climate stem from several factors, but research in this area consistently shows disregard for those with subordinate group membership. A system based on subordinate group exclusion fails to offer support to these individuals at multiple levels (e.g., Leath & Chavous, 2018) and can contribute to negative feelings, such as lack of preparedness (e.g., Pascarella et al., 1997), lack of self-efficacy (e.g., Blackburn, 2007), and lack of belonging (e.g., Joseph & Hirshfield, 2011).

Moreover, perceptions of academic climate tend to predict an individual's overall satisfaction of their academic community (Graham & Gisi, 2000), meaning that poor perceptions could influence burnout (e.g., Jensen & Deemer, 2019) and intentions to leave higher education (e.g., Hall & Sandler, 1984; Strayhorn, 2013). In a sample of undergraduate women pursuing STEM educations, Jensen and Deemer (2019) found that chillier perceptions of climate were associated with higher levels of emotional exhaustion and cynicism, which were both operationalized as components of burnout. Even though men did not participate in the study, findings hold value in recognizing the negative influence of academic climate on women. When examining perceptions of climate with an emphasis on race, Strayhorn (2013) indicated that Black college students perceived academic climate more negatively than White students, and poor perceptions of climate were significantly correlated with the intention of Black students to leave college. Burnout and intentions to leave may act as precursors for attrition among individuals that perceive academic climate negatively (e.g., Gasiewski et al., 2012). Dropping out of school could narrow employment and fiscal opportunities for these individuals, which could contribute to generational misfortune. Furthermore, attrition of individuals with subordinate group membership may maintain the current power dynamics present within the higher education system.

Imposter Phenomenon

One specific implication of negatively perceived academic climate is *imposter phenomenon*, which is defined as paralyzing feelings of intellectual phoniness and inability to internalize success (e.g., Clance, 1985; Clance & Imes, 1978; Clance & O'Toole, 1988). For instance, the imposter phenomenon has been linked to expectations of failure (Cozzareli & Major, 1990; Leary et al., 2000), fear of negative evaluation (Thompson et al., 2000), and self-

presentation concerns (Ferrari & Thompson, 2006). Furthermore, internalization of imposter feelings may also lead to decreased well-being (Clance & O'Toole, 1988) and increased anxiety (Cozzareli & Major, 1990; Topping & Kimmel, 1985).

Research on the imposter phenomenon tends to center around gender differences between women and men. Many studies indicate that women generally report higher imposter feelings more often than men (e.g., Cusack et al., 2013; Kumar & Jagacinski, 2006), but these works lack emphasis on contextual factors. Much of the scholarship overemphasizes internal factors (e.g., individual-level) without recognition of more wide-scale factors (e.g., interpersonal-level, institutional-level, systemic; Taylor & Breeze, 2020). This limited approach hinders the ability to understand the entirety of the imposter phenomenon and its full impact. While some scholars have incorporated the examination of the environment (e.g., workplace, education) in their imposter phenomenon work, results were inconclusive; women sometimes reported higher imposter ratings than men (e.g., King & Cooley, 1995), other times men reported higher imposter ratings than women (e.g., Fried-Buchalter, 1997), and in some cases, there were no gender differences (e.g., Topping & Kimmel, 1985). Although researchers assessed the imposter phenomenon in different environments, importantly some aspects are missing from this research. Namely, participant perceptions of the environment were not considered, and these studies failed to recognize how an individual's other social identities work in combination with their gender to create their experience with the imposter phenomenon.

As noted above, inequalities occur in the higher education system at multiple levels, which could play a role in the way an individual views the academic community as well as perceptions of how they fit or do not fit based on their social identity. In addition, the reinforcement of dominant groups within higher education likely influences individual-level

expectations within academic settings and could enhance imposter feelings and subsequent behaviors (Gabriel & Tate, 2017; Gutiérrez y Muhs et al., 2012). Both dominant and subordinate groups are susceptible to oppression from wide-scale factors, but this may manifest in different ways. For instance, women may endure oppression from the system by way of underrepresentation (e.g., Blackburn, 2017, for review), while men might encounter oppression due to assumptions of achievement (Greig et al., 2000). In order to gain a full picture of the imposter phenomenon among students in higher education, explicit assessment of both contextual factors and social identities is warranted.

Identity Centrality

However, another factor that may determine the impact of climate on imposter phenomenon is identity centrality. Normative beliefs tied to social group expectations contribute to the formation of identity (House, 1981), and individuals typically hold assorted identities by belonging to multiple social groups. Identities influence an individual's perceptions, behaviors, and interactions within a society (e.g., Thoits, 1987; Turner, 1991; Turner et al., 1994), but this can become complicated when considering more than one identity. Moreover, the degree to which an individual identifies with each of their multiple identities differs. *Identity centrality* refers to the relative importance an individual places on a particular identity as compared to their alternative identities (Stryker & Serpe, 1994). The psychological attachment to one's identity group reflected by identity centrality implies stability across contextual factors, such as time, setting, and surrounding persons (Sellers et al., 1998), meaning that, situational factors have a limited impact on the identities that an individual find most central to their sense of self.

Moderating Impact of Identity Centrality

Previous research suggests that identity centrality can moderate the extent of negative psychological outcomes among minority groups when coping with discrimination (e.g., Szymanski & Lewis, 2016), anticipated expectations of identity (e.g., Martire et al., 2000), and identity interference (e.g., Settles, 2004), but the direction of the moderation appears contradictory in the literature. In other words, the moderating impact may both buffer and exacerbate negative psychological outcomes when assessing the aforementioned variables. Those with higher identity centrality might have a greater understanding of wide-scale oppression related to that specific identity, which could protect them from negative internalization (Neblett et al., 2012; Szymanski & Moffitt, 2012). Similarly, identifying with a social group can act as a protective mechanism in the face of discrimination or mistreatment due to increased sense of belonging (Tajifel & Turner, 1979). However, negative psychological outcomes may intensify as hyperawareness due to identity centrality could increase the extent to which an individual recognizes instances of discrimination (Burrow & Ong, 2010). Another explanation for these seemingly inconsistent findings may result from the excess attention placed on individual-level factors. To date, examination of identity centrality as a moderator of negative psychological outcomes primarily focuses on factors stemming from internal processes (e.g., coping, anticipated expectations of identity, identity interference). Because identity centrality remains stable to an individual's sense of self across circumstances (Sellers et al., 1998), a better gauge of changing dynamics related to identity may be interpersonal- or institutional-level dynamics and the extent to which they support a specific identity. In recent years, some scholars have acknowledged STEM climates in identity centrality work due to the historical exclusion of women in science, but many of these studies recognize other internal processes as moderators in

addition to identity centrality (e.g., Settles, 2004; Settles et al., 2016) instead of solely examining identity centrality. Considering this, the current study assessed the moderating impact of gender centrality on the relationship between gender and the imposter phenomenon through perceived academic climate.

Gender Centrality as a Moderator of Academic Climate

Despite practices of the scientific method in psychological research, psychology often lacks acknowledgement as a STEM discipline. As previously noted, exclusionary practices take place within science as whole, meaning that discrimination can occur in subdisciplines of science. However, instances of exclusion and discrimination may appear differently within specific subdisciplines. For example, women face gender-based discrimination when entering STEM as they are the numerical minority, so mistreatment may occur overtly (e.g., see Blackburn, 2007, for a review). In contrast, women are the numerical majority in psychology, but they also risk exposure to gender-based discrimination due to structural inequity within larger systems. That is, while discrimination may be less explicit for women in psychology when compared to those in STEM, they may perceive academic climate as less welcoming than men do, even in female dominated disciplines (Morris & Daniel, 2008). The explicit nature of gender-based discrimination in STEM might explain why the literature in this area is becoming increasingly more extensive, but the work on gender-based discrimination in psychology remains scarce. Because explicit forms of discrimination are usually easier to identify, subtle forms of discrimination (e.g., microaggressions) often go unnoticed (e.g., Sue et al., 2007). Correspondingly, difficulty lies in quantifying subtle discrimination (e.g., Sue et al., 2007) and could explain why fewer studies focus on gender-based discrimination in psychology. As well,

much of the existing literature has prioritized gender-based discrimination related to women, with limited recognition of gender minorities or men.

Gender centrality, or the importance an individual puts on their gender in terms of their self-concept (Settles, 2004), has been identified as a moderator of academic climate and adverse psychological outcomes among women in STEM (e.g., Settles, 2004; Settles et al., 2016). In fields dominated by men, such as STEM, gender centrality may protect in combatting negative consequences of climate by feeling greater connection to other women in the field and developing more relationships (Bourguignon et al., 2006). On the other hand, women with high gender centrality may also perceive greater threat in environments dominated by men due to increased stigma awareness pertaining to gender (London et al., 2012). Inconsistencies of the moderating impact of identity centrality found in the literature warrants further investigation. Due to the complexity of identity centrality as a moderator, assessing how gender centrality may work differently across genders (instead of just women) might provide more thorough understanding on the moderating impact as women, men, and gender minorities likely perceive academic climate diversely based on their varied experiences within the higher education system. In addition, investigating the moderating impact of gender centrality in the realm of psychology, a discipline comprised primarily of women but based on scientific principles, could offer a novel perspective that has yet to be explored in prior work. Consideration of the interplay between institutional-level factors (e.g., culture of psychology as discipline), interpersonal-level factors (e.g., discrimination from others), and individual-level factors (e.g., gender centrality) across individuals from different social groups (e.g., cisgender women, cisgender men, gender minorities) could provide a more well-rounded understanding of mental health and academic disparities between groups.

Intersectionality

History and Psychological Application

Application of intersectionality theory could promote greater understanding of the interrelated dynamic of how one's social identities and perceptions of academic climate at multiple levels may influence imposter feelings. Intersectionality refers to the convergence of an individual's multiple identities (e.g., gender, race, sexual orientation) and how they interact within society to create experiences of oppression, privilege, and domination. Attempts for mainstream psychology to adopt an intersectional perspective have increased in recent years (e.g., Cole, 2009; Parent et al., 2013; Rosenthal, 2016), but the roots of intersectionality theory contradict much of the methodological practices of the discipline. Several scholars and activists who held subordinate group identities founded the theory by challenging systemic inequality in addition to movements based on single-axis categorizations (Collins, 1990, Crenshaw, 1989, 1991; hooks, 1984). For example, historical feminist movements stressed oppression due to gender, but these movements targeted the needs of White women while neglecting issues faced by women of color (e.g., hooks, 1984). A primary component of intersectionality theory is the systemic exclusion of individuals based on the multiple groups in which they belong (e.g., Crenshaw, 1989, 1991). As well, systemic norms influence other aspects of society at the institutional, interpersonal, and individual levels.

Inclusion of intersectionality theory as found in mainstream psychology often takes a surface level approach with an overemphasis on subordinate group experiences, focusing on a single group membership, and misrepresentations on viewing identity as additive or singular (Greenwood, 2017; Parent et al., 2013). As a result, intersectional research criticism of psychology suggests a lack of emphasis on structural disparities and too much reliance on

identity categories (Cho et al., 2013). Although much of intersectionality research fails to grasp the dynamic nature of social identities and the impact of hierarchal structures on circumstances, some scholars have offered strategies to address this problem (Cole, 2009; Warner, 2008). Due to excess attention on investigating experiences of subordinate social groups, the full scope of inequality remains unseen. The inclusion of subordinate and dominant social groups would highlight power, domination, and privilege with consideration of hierarchal factors (Warner, 2008). Correspondingly, assessing similarities and differences across various intersectional locations could help determine sources related to the inequality of both individuals and groups (Cole, 2009). Centering intersectionality research around inequality issues, instead of identity, would also provide insight into multi-level systems and their widescale impact of power and oppression in various social spaces (Cole, 2009**)**.

Key Mechanisms of Intersectionality

Individuals hold multiple social group identities that work together to shape instances of power and oppression in society as well as in smaller social spaces. The extent to which an individual holds power or experiences oppression is contingent on how their simultaneous dominant and subordinate group identities fit into the hierarchy of society (Case, 2017; Greenwood, 2017). Furthermore, most individuals belong to both dominant and subordinate groups, and the extent to which they experience power or oppression depends on contextual circumstances (e.g., history, time, physical location). Intersectionality highlights how macro-level factors (e.g., systemic, institutional) lead to advantage, disadvantage, or both based on the intersection of an individual's various identities (e.g., gender, race) at a micro-level (e.g., individual; Collins, 1990, Crenshaw, 1989). However, intersecting identities, and their impact, are more complicated than solely the sum of individual identities. Beginning with one identity

category, such as gender, and adding other identities, such as race or sexual orientation, assumes that there is a standard set of experiences associated with each individual identity. This additive approach fails to acknowledge the complicated relationships among institutional structures, societal inequalities, and individual experiences (Hankivisky & Cormier, 2011). The way a student's multiple identities combine to form unique experiences of privilege or oppression needs further consideration. Institutional-level inequity stemming from systemic exclusion within the higher education system needs direct examination when analyzing outcomes of students. Intentional assessment of institutional-level factors alongside individual-level factors when conducting higher education research would help researchers gain a more comprehensive picture of circumstances related to power and oppression within academic settings.

Need for Intersectionality in Current Work

While some scholars have raised concerns about an exclusionary culture within the discipline of psychology, anecdotal accounts and theoretical descriptions make up much of this published work (e.g., Mareck, 1993; Settles et al., 2020). Additionally, social group inequity within this field tends to look at a single social group identity (e.g., women) without recognition of how other social identities (e.g, race, sexual orientation) may impact perceptions and experiences (e.g., Riley et al., 2006). Last, the majority of the aforementioned scholarship prioritizes duties (e.g., teaching, publishing) related to those that work in the field of psychology instead of the student position (e.g., Gannon et al., 1992; Riley et al., 2006; Settles et al., 2021). Determining factors that may contribute to imbalances in success during the student years would offer benefit in addressing issues that could impede opportunity for individuals prior to starting their careers as well as shed light on the barriers faced by individuals when pursuing degrees in psychology. Identifying mechanisms related to identity that may act as buffers could also provide

understanding on positive outcomes, such as resilience (Richman et al., 2011). Since people can endure circumstances of privilege and oppression, recognizing how an individual's identities work within the discipline of psychology could uncover covert systemic inequities.

In order to target the previously mentioned flaws of intersectionality research within psychology, the current research recognized both subordinate and dominant groups (e.g., cisgender women, cisgender men, and gender minorities) instead of just focusing solely on subordinate group membership. As well, similarities and differences were considered in the examination of multiple social identities. Recognizing both similarities and differences can reduce the "us versus them" mentality (e.g., Link & Phelan, 2001) and help to identify areas that will benefit all groups. The current study aimed to identify how different levels of a hierarchal system can produce instances of privilege and oppression, beyond the assessment of social identities alone.

Current Work

This study was guided by two questions, 1) "How does identity impact perceptions of academic climate and the imposter phenomenon among psychology students?" and 2) "What role does identity centrality play in the link between identity and perceived academic climate?". The intent of the current work was to fill a gap in the literature by investigating perceived academic climate of psychology and the imposter phenomenon among cisgender women, cisgender men, and gender minority students, as well as to examine how an individual's multiple social identities can influence perceptions of academic climate within psychology and the imposter phenomenon. A convergent parallel mixed-methods design, consisting of quantitative and qualitative components, was utilized in order to thoroughly understand the mechanisms at play.

Convergent Parallel Mixed Methods Design

Quantitative Component. Through quantitative analyses, gender group comparisons on perceived academic climate and imposter phenomenon were conducted, a simple mediation analysis was utilized to test the conditional indirect effect of perceived academic climate (i.e., mediator) on gender (i.e., predictor variable) and imposter phenomenon (i.e., outcome variable), and a moderated mediation analysis was implemented to examine the conditional indirect effect of gender centrality (i.e., moderator) on the relationship between gender and imposter phenomenon through perceived academic climate. As gender was the only identity accounted for in the quantitative component of this study, examination of centrality was specific to gender. See Figure 1 for the Quantitative Simple Mediation/ Moderated Mediation Model. The current study tested the following (5) hypotheses through quantitative analyses:

Hypothesis 1: Cisgender women and gender minorities would perceive the academic climate more negatively than cisgender men.

Hypothesis 2: Cisgender women and gender minorities would report higher levels of the imposter phenomenon than cisgender men.

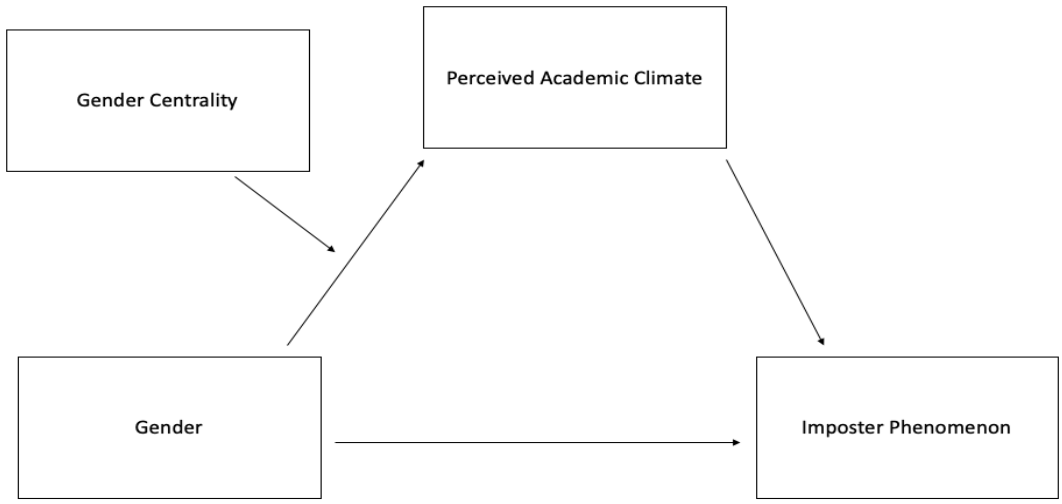
Hypothesis 3: Perceived academic climate would mediate the relationship between gender and the imposter phenomenon.

Hypothesis 4: Greater gender centrality among cisgender women and gender minorities would exacerbate perceived negative academic climate and imposter phenomenon.

Hypothesis 5: Greater gender centrality among cisgender men would ameliorate the impact of perceived negative academic climate and the imposter phenomenon.

Figure 1

Quantitative Simple Mediation/ Moderated Mediation Models



Note. The simple mediation model is represented by gender (predictor variable), perceived academic climate (mediator variable), and imposter phenomenon (outcome variable)—without gender centrality included. The moderated mediation model is represented with the addition of gender centrality (moderator variable). This figure is specific to the quantitative component of the study.

Qualitative Component. In addition to the quantitative component, a qualitative component was implemented through semi-structured interviews with intersectionality-based questions. Moreover, semi-structured interview questions were created using an intersectional approach to highlight interdependence of participants' experiences based on their simultaneous multiple social identities to try to avoid an additive approach (Bowleg, 2008). These interviews were conducted to explore how power and oppression within psychology differentiates based on experiences at multiple-levels and the combination of gender and other social identities. The goal of these interviews was to provide greater insight on how an individual's experiences based on their multiple social identities work together to shape perceptions of academic climate and the imposter phenomenon, instead of just comparing psychology students based on gender alone. See Figure 2 for the Conceptual Model of Qualitative Analysis. Although the qualitative

component of this study was exploratory, interview questions were crafted with the following (5) exploratory aims in mind:

Exploratory Aim 1: Identify how experiences of advantage, based on multiple social identities, contribute to perceptions of academic climate of psychology.

Exploratory Aim 2: Identify how experiences of disadvantage, based on multiple social identities, contribute to perceptions of academic climate of psychology.

Exploratory Aim 3: Identify factors that contribute to the imposter phenomenon among psychology majors based on their multiple social identities and experiences within the discipline.

Exploratory Aim 4: Identify factors that contribute to the imposter phenomenon among psychology majors based on perceptions of academic climate in psychology.

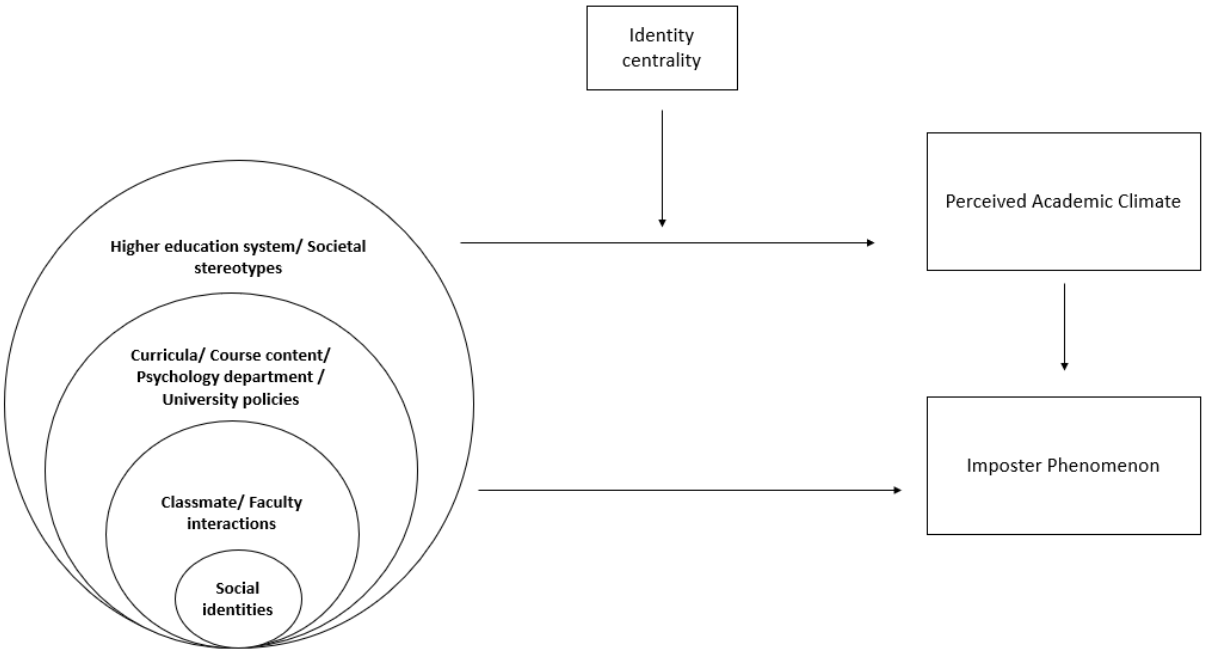
Exploratory Aim 5: Identify the role of identity centrality on perceptions of academic climate in psychology.

The approach to the qualitative component of this study was primarily inductive and driven by data. Thus, my goal was to uncover the experiences and perspectives of the participants to reveal potential relationships between multiple social identities, identity centrality, perceived academic climate, and imposter phenomenon. For this reason, I opted for exploratory aims instead of hypotheses. However, individuals that hold multiple subordinate identities simultaneously (e.g., sexual minority of color) may encounter excess invisibility as they fail to fit the prototypical expectation of each of their groups (e.g., sexual minority, person of color; Purdie- Vaughns & Eibach, 2008). In the context of the current study, individuals with multiple subordinate identities may lack overall representation within the discipline of psychology, even though individual fragments of their identity may be visible. Therefore, individuals that hold

multiple subordinate identities may encounter worse perceptions of academic climate and greater levels of imposter phenomenon that those that hold a single subordinate identity, because they may have less exposure to course content, individuals, and support structures that recognize their multiple social identities coming together.

Figure 2

Conceptual Model of Qualitative Analysis



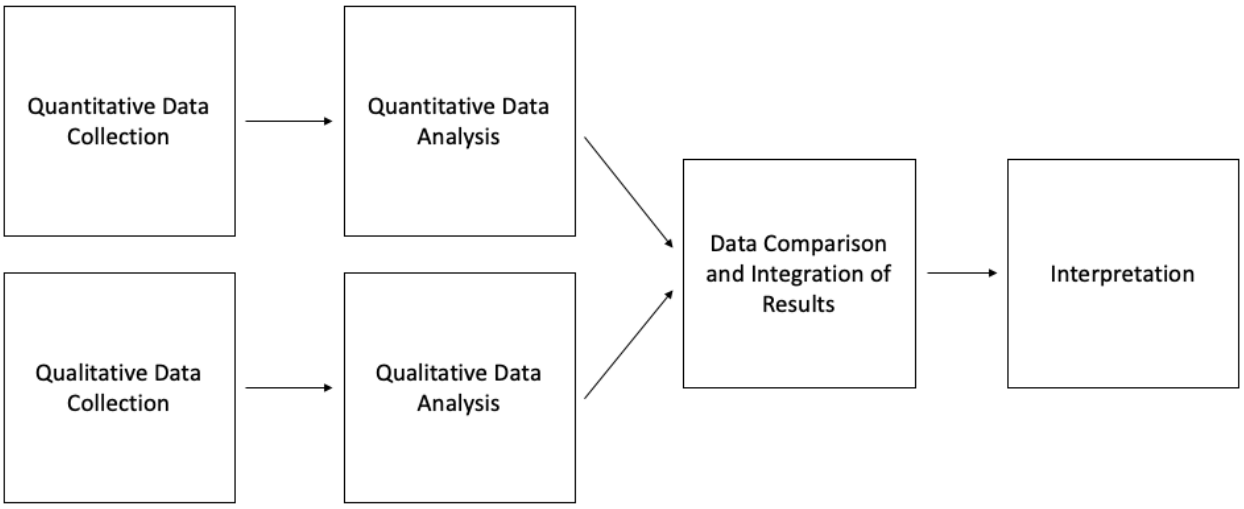
Note. This model highlights the interrelatedness of multiple social identities (inner circle) and experiences at the interpersonal (second circle), institutional (third circle), and societal/ systemic (outer circle) within psychology and how that interrelation may contribute to perceived academic climate, identity centrality, and the imposter phenomenon among psychology majors. This figure is specific to the qualitative component of the study.

Integration of Quantitative and Qualitative Elements. Quantitative and qualitative data collection took place simultaneously, and results from separate data analyses were compared and then interpreted together (Creswell & Plano-Clark, 2011; See Figure 3). Of note, a greater sample size was recruited for the quantitative component as opposed to the qualitative component. However, individuals who participated in the qualitative component also completed

the quantitative component of the study. After quantitative and qualitative data collection and analyses took place, results from each component were compared and integrated. Regarding integration, the quantitative component provided information on the direction and magnitude of the variables, whereas the qualitative component extended contextual understanding of the quantitative data and offered deeper understanding of factors that were more difficult to measure quantitatively, such as multiple group membership. Additionally, the qualitative component honored specific experiences of participants and increased representation among those with subordinate identities. Ultimately, comparisons were made between quantitative and qualitative data to identify differences and similarities that occurred when focusing on a single group membership (e.g., gender) through the quantitative component and multiple group memberships (e.g., gender, race, sexual orientation, etc.) through the qualitative component.

Figure 3.

Convergent Parallel Mixed-Methods Design



Chapter 2. Quantitative Method

Participant Recruitment

An *a priori* power analysis was conducted through G*Power (Version 3.1.9.7) to establish the target sample size for the current study. A test for a linear multiple regression was selected, and input parameters included $f^2 = 0.15$ (medium effect), $1\text{-}\beta = 0.80$, $\alpha = 0.05$, and 6 predictors (including race, sexual orientation, and first-generation student status as covariates) which yielded a minimum sample size of 98 participants. *Post-hoc* bias-corrected bootstrapping also took place to adjust for bias and skewedness in the population (Fritz & MacKinnon, 2007). In order to participate in the study, individuals had to be at least 18 years of age, identify as an undergraduate psychology major at a university, and reside in the United States at the time of participation. Multiple strategies were used to maximize recruitment, including a mass email sent to ETSU psychology listservs, face-to-face advertising in ETSU psychology classes, flyer posts in the ETSU Pride center, and the ETSU Sona Systems undergraduate psychology participant pool. To recruit from the general public, paid ads were posted on Facebook and Instagram, study information was posted on Reddit and Tumblr, and the flyer was shared with my own psychology contacts across the nation. My contacts were asked to share the flyer with their own contacts and any applicable professional organizations in which they belonged. Additionally, participants that completed the qualitative portion of the study were provided the link for the quantitative portion upon completion. Compensation varied based on the recruitment modality. Individuals recruited through the Sona System received course credit (0.5 Sona Credit) for their research participation, and all other participants were entered in a drawing to win one of four Amazon gift cards ($50 each).

Materials

Software and Social Media Platforms- Recruitment

Sona Systems. The psychology department at ETSU utilizes the Sona Systems software, which is a cloud-based software that allows researchers to recruit participants, create studies, and organize participant pools, particularly in university settings (Sona Systems, 2018). The current study was advertised through Sona Systems to target psychology majors. Students recruited through this outlet had the opportunity to receive course credit upon completion of the study.

Social Media Platforms. Several social media platforms were used to recruit participants, including Facebook (paid ads), Instagram (paid ads), Reddit, and Tumblr.

Software Platforms- Data Collection and Analysis

Research Electronic Data Capture (REDcap). Widely used by research centers, non-profit organizations, and universities, Research Electronic Data Capture (REDcap) is a cloud-based software that functions to help researchers collect, manage, and analyze data (Harris et al., 2019). Regarding the current study, REDcap will serve as a survey management tool, where the researcher will input of measures and data collection of participants will occur.

Statistical Package for Social Sciences (SPSS). International Business Machine (IBM)'s Statistical Package for Social Sciences (SPSS) software provides researchers with tools for hypothesis testing, analyses, and reporting (IBM Corporation, 2020). SPSS (Version 27) will be utilized in the current study for all quantitative data analyses.

PROCESS. PROCESS is a commonly used modeling tool for mediation, moderation, and conditional process analyses (Hayes, 2021).

Measures

Perceived Academic Climate

Pyke and Janz's (2000) Perceived Chilly Climate Scale (PCCS) includes 28 items and was adapted for the current study to evaluate perceived academic climate, or impressions that individuals form of academic communities, within the psychology department at their current university. Questions were categorized by five-subscales, including climate students hear about, sexist attitudes and treatment, climate students experience personally, classroom climate/course material, and safety. A seven-point Likert scale was used to measure participant responses, ranging from 1 (strongly disagree) to 7 (strongly agree). Sample questions include "I have made a comment in a psychology class that has been ignored, and later another student received credit for my idea" and "Topics regarding women and/or gender minorities are integrated into the course material in most of the psychology classes I have taken." Participant scores were calculated by adding together the numeric value from their responses to each statement. Higher scores demonstrated poorer perceptions of academic climate, with the lowest possible score being 28 and the highest possible score being 196. Of the 28 items, 14 were reverse scored.

In creation of the PCCS, the authors conducted psychometric testing in a set of studies. In the first study, reliability as measured by Cronbach's alpha was .92, with .90 in the second. Demographic variables were used to test validity in both studies. Females perceived climate to be chillier than males (Study 1: t (190) = 3.61, p < .0003 (one-tailed); Study 2: t (324) = 4.4, p < .0003 (one-tailed)), racial minority students perceived chillier climate than their White counterparts (Study 1: t (190) = 1.5, p < .05 (one-tailed); Study 2: t (316) = 2.0, p < .02 (one-tailed)), and students who were in school longer perceived chillier climate than those who were in school for less time (Study 1: t (148) = 1.5, p < .05 (one-tailed); Study 2: t (325) = 4.32, p <

.0003 (one-tailed)). In addition, the researchers found significant construct validity (r (327) = .30) when they compared scores on the PCCS to Dean's (1961) Alienation Scale.

Imposter Phenomenon

The Clance Imposter Phenomenon Scale (CIP; Clance, 1985) consists of 20 items that help determine whether an individual holds imposter phenomenon characteristics and gauge the extent to which these characteristics cause distress. A five-point Likert scale was used to measure participant responses, ranging from 1 (not true at all) to 5 (very true). Sample questions include "Sometimes I'm afraid others will discover how much knowledge or ability I really lack" and "I often compare my ability to those around me and think they may be more intelligent than I am." Participant scores were calculated by adding together the numeric value from the responses to each statement. Scores of 40 or less indicated that the imposter phenomenon had little impact on the individual's life, scores between 41-60 had a moderate impact, scores between 61-80 had a frequent impact, and scores of 80 or more had an intense impact.

The validation literature on the CIP supports the instrument as reliable by way of high internal consistency, inclusive of Cronbach's alpha values of .92 (Chrisman et al., 1995) and .96 (Holmes et al., 1993). With regard to validity, three primary factors (e.g., fake, luck, discount) were identified through factor analyses by Kertay et al. (1991) and Chrisman et al. (1995), which provides evidence of construct validity. Furthermore, Chrisman and colleagues (1995) substantiated discriminant validity of the imposter phenomenon (as measured by the CIP) from constructs of depression, self-esteem, social anxiety, and self-monitoring, despite having some similarities.

Gender Centrality

Luhtanen and Crocker's (1992) Identity Subscale of the Collective Self-Esteem Scale (CSES) was adapted in the current study to specifically assess gender centrality. Participants were asked 4 questions that aimed to assess the importance of their gender identity to their self-definition. A seven-point Likert scale was used to measure participant responses, ranging from 1 (strongly disagree) to 7 (strongly agree). Sample questions include "My gender identity is an important reflection of who I am" and "My gender identity is an important part of my self-image." Participant scores were calculated by adding together the numeric value from the responses to each statement. Higher scores suggested greater gender centrality. Of the 4 items, 2 were reversed scored.

During psychometric evaluation of the CSES, Luhtanen and Crocker (1992) assessed reliability and validity of each subscale. Reliability testing of the identity subscale yielded Cronbach's alphas of .87, .86, and .89 over a series of three studies. Test-retest (6-week period) reliability of the identity was also adequate with a value of $r = .68$. In terms of validity, construct validity was displayed as the CSES identity subscale was significantly correlated with the collective identity subscale from the Aspects of Identity Questionnaire-III (AIQ-III; $r = .33$, $p < .001$), which measures value of identity to one's self (Cheek et al., 1985).

COVID-19 Influence

Participants were presented with the question "What month and year did you start attending your current university?" to investigate how perceptions of academic climate and the imposter phenomenon may vary based on time spent at their university before and after the campus-wide shut down. During the campus-wide shut down, the majority of classes between Spring 2020- Fall 2021 were taught online.

Demographics

The demographic questionnaire included information regarding age, class ranking, first-generation student status, sexual orientation, gender identity, and race. The demographic information was collected last in order not to influence participant answers on other items.

Procedure

The researcher obtained approval from the Institutional Review Board (IRB) at East Tennessee State University prior to the recruitment of human participants and data collection. All participants enrolled in the study through a link created through the REDcap system. This link was distributed to individuals through flyers and ads (via social media, email listservs, psychology contacts, physical flyers), face-to-face (in psychology classes), and the Sona System. Once the participants accessed the REDcap link, they were directed to an informed consent form, which described information about the study, eligibility requirements, compensation, participatory benefits, potential risks, and contact information of the research team. After reading the informed consent form, individuals were asked if they agreed to participate in the study. After providing consent, participants were directed to a series of measures consisting of questions from the PCCS (Pyke & Janz, 2000), CIP (Clance, 1985), and Identity Subscale (Luhtanen & Crocker, 1992) as well as questions related to demographics and COVID-19. Upon completion of all measures, participants were thanked for their participation and provided with mental health resources. Participants were then redirected to two links, where 1) they could register for the gift card drawing, and 2) they could fill out an online screener to participate in the qualitative component of the study.

Chapter 3. Quantitative Results

Preliminary Analyses

Data Cleaning

Prior to analysis**,** data were cleaned. Whereas raw data was collected from 280 participants, 138 were excluded. Participants were excluded if they were not a psychology major or did not complete all study measures. Additionally, fast survey response times that fell one standard deviation below the mean were excluded to reduce noise caused by random responses (Greszki et al., 2015) and due to potential bot activity. The final sample size was $N = 142$ (84 participants from East Tennessee State University; 54 participants from various universities across the United States).

Reliability of Scales

Cronbach's alpha values were obtained to determine internal consistency of the scales utilized in the study. Internal reliability was established as all scores were above $\alpha = .70$ (Hulin et al., 2001). Specifically, high alpha values were obtained for the PCCS (Pyke & Janz, 2001), which measured the construct of perceived academic climate ($\alpha = .93$), and for the CIP (Clance, 1985), which measured levels of the imposter phenomenon ($\alpha = .93$). The alpha value obtained from the Identity Subscale of the CSES (Luhtanen & Crocker, 1992), which measured gender centrality, was lower ($\alpha = .73$) than the other two scales. Nonetheless, the value still indicated an acceptable level of internal consistency (Hulin et al., 2001).

Descriptives/ Correlations of Main Study Variables

Descriptive statistics indicated, on average, moderately poor perceptions of academic climate, moderate levels of gender centrality, and a frequent impact of imposter phenomenon

among participants. However, no significant correlations were found among the main study variables. See Table 1 for descriptive statistics and correlations of main study variable

Table 1.

Descriptive Statistics and Correlations among Main Study Variables

	1 Perceptions of Climate	2 Imposter Phenomenon	3 Gender Centrality
1	1.00	-	-
2	-.14	1.00	-
3	.06	.12	1.00
M	86.43	67.59	17.31
SD	28.54	15.35	5.18
Min	35	29	4
Max	163	98	28

Sample Demographics

The mean age of participants was 23.2 (*SD* = 5.70), and ranged from 18 to 52 years old. The sample was comprised of 57% (*n* = 81) cisgender women, 34.5% (*n* = 49) cisgender men, and 8.5% (*n* = 12) gender minorities (i.e., transgender female, transgender male, nonbinary, genderqueer). Participants were allowed to report as many racial/ethnic identities that applied, and the sample identified as White/ Caucasian (76.2 %; *n* = 109), Black/ African American (12.7 %; *n* = 18), Asian (9.2%; *n* = 13), Alaskan/ Native American (1.4%; *n* = 2), Hispanic (1.4%; *n* = 2), Middle Eastern (0.7%; *n* = 1), and other (0.7%; *n* = 1). For sexual orientation, the majority of participants identified as heterosexual (65.5%, *n* = 93), while the remaining participants indicated a sexual minority identity (29.5%; *n* = 42; i.e., lesbian, gay, bisexual, pansexual, asexual, queer), did not know (0.7%, *n* = 1), preferred not to answer (2.8%; *n* = 4), or other

(1.4%; *n* = 2). Of the 142 participants, roughly 23.9% (*n* = 34) self-identified as freshman, 28.9% (*n* = 41) as sophomores, 14.1% (*n* = 20) as juniors, and 32.4% (*n* = 46) as seniors. Approximately half of the sample reported first-generation college student status (52.8 %; *n* = 75). Table 2 presents frequencies of demographic data categorized by gender group.

Table 2.

Demographic Frequency Table of Sample by Gender Group

	Cisgender Men (*N* = 49) *n* / %	Cisgender Women (*N* = 81) *n* / %	Gender Minorities (*N* = 12) *n* / %
White	34/ 69.4%	63/ 77.8%	12/ 100%
Racial/Ethnic Minority	17/ 34.7%	19/ 23.5%	1/ .1%
Heterosexual	42/ 85.8%	51/ 63.0%	0/ 0%
Sexual Minority	6/ 12.2%	27/ 33.3%	9/ 75%
First-Generation Student	28/ 57.1%	40/ 49.4%	7/ 58.3%

Note. Answer selections of "Other" and "Prefer Not to Answer" are not included in the table. Participants were allowed to select as many racial/ethnic identities that applied, so totals may be greater than sample size.

Gender Group Comparisons on Study Variables

To test hypotheses 1 and 2, that cisgender women and gender minorities would perceive the academic climate more negatively than cisgender men (hypothesis 1) and that cisgender women and gender minorities will report higher levels of the imposter phenomenon than cisgender men (hypothesis 2), group comparisons on main study variables were examined. Due to the unequal size among groups, variance was tested using the Levene Test of Equality of Variances to determine how to proceed with group comparisons. Homogeneity of variance occurs when the p-value is greater than .05, which indicates the variances are significantly different between groups. However, the assumption of homogeneity of variances was violated among each primary study variable, specifically, perceived academic climate ($F(2, 139) = 13.42$, $p = .000$), imposter phenomenon ($F(2, 139) = 10.17$, $p = .000$), and gender centrality ($F(2, 139)=$

8.02, $p = .001$). Given these results, a non-parametric Kruskal-Wallis test was used to conduct group comparisons.

Overall, results revealed differences in perceived academic climate between groups ($H(2) = 24.11$, $p = .000$) according to the results of the Kruskal- Wallis test. As shown in Table 3, results did not support the first hypothesis, as cisgender men perceived academic climate more negatively than both cisgender women and gender minorities. Pairwise comparisons indicated the mean rank difference of perceived academic climate between cisgender men and cisgender women was statistically significant ($p = .000$; $p \leq .001$) as well as the difference between cisgender men and gender minorities ($p = .046$; $p \leq .05$). However, the mean rank difference between cisgender women and gender minorities was nonsignificant ($p = .429$).

As with perceived academic climate, results showed differences in imposter phenomenon between groups ($H(2) = 18.23$, $p = .000$). Presented in Table 3, results supported the second hypothesis, as cisgender women and gender minorities reported higher levels of the imposter phenomenon than cisgender men. Pairwise comparisons revealed that the mean rank difference of imposter phenomenon between cisgender men and cisgender women was significant ($p = .001$; $p \leq .001$) as well as the difference between cisgender men and gender minorities ($p = .001$; $p \leq .001$), but nonsignificant between cisgender women and gender minorities ($p = .139$).

Table 3.

Mean Rank Group Comparisons on Study Variables

Variable	Cisgender Men ($N = 49$) *Mean Rank*	Cisgender Women ($N = 81$) *Mean Rank*	Gender Minorities ($N = 12$) *Mean Rank*
Perceived Academic Climate	94.54	58.06	68.13
Imposter Phenomenon	52.46	79.10	97.92

Note. Higher perceived academic climate scores indicate poorer perceptions of academic climate within psychology. Higher imposter phenomenon scores indicate greater frequency and interference of imposter phenomenon in one's life.

Simple Mediation Analysis

In order to test Hypothesis 3, which predicted an indirect effect of gender identity (cisgender women versus cisgender men versus gender minority) on the imposter phenomenon through perceived academic climate, a simple mediation analysis was conducted using a bootstrap estimation approach, with 5000 samples, by way of PROCESS Version 3.5 (model 4; Hayes, 2021). Results showed that gender identity significantly predicted perceptions of academic climate; compared to cisgender women, cisgender men reported poorer academic climate (b = -23.41, $t(136)$ = -4.77, p = .000). However, neither cisgender men (b = -18.42, $t(136)$ = -1.93, p = .056) nor women (b = 4.98, $t(136)$ = .57, p = .569) significantly differed from gender minorities or cisgender women versus gender minorities. When controlling for gender, perceived academic climate did not significantly predict imposter phenomenon (b = -.003, $t(135)$= -.06, p = .949). Results indicated the indirect effect of perceived academic climate between gender and imposter phenomenon was nonsignificant (cisgender men versus cisgender women, b = .071, SE = 1.21, 95% CI [-2.29, 2.62]; cisgender men versus gender minorities, b =

.057, *SE* = 1.07, 95% CI [-2.15, 2.38]; cisgender women versus gender minorities, *b* = -.015, *SE* = .519, 95% CI [-1.22, .996]). Overall, perceived academic climate did not mediate the relationship between gender and the imposter phenomenon; hypothesis 3 was not supported. See Table 4 for path coefficients.

Table 4.

Unstandardized Path Coefficients for Simple Mediation Analysis

Path	Cisgender Men v. Cisgender Women *b* (*SE*)	Cisgender Men v. Gender Minorities *b* (*SE*)	Cisgender Women v. Gender Minorities *b* (*SE*)
a	-23.41 (4.9)***	-18.43 (9.57)	4.98 (8.72)
b	-.003 (.048)	-.003 (.048)	-.003 (.048)
ab	.071 (1.21)	.057 (1.07)	-.015 (.519)

Note. The model represents the relationships between gender and imposter phenomenon via perceived academic climate; *a*= direct effect of gender on perceived academic climate; *b*= direct effect of gender on imposter phenomenon; *ab*= indirect path of gender to imposter phenomenon through perceived academic climate; ; the direct path of gender to imposter phenomenon controlling for perceived academic climate was significant when comparing cisgender men to cisgender women (*b* = 9.32, *SE* = 2.96, *p* < .01) and when comparing cisgender men to gender minorities (*b* =14.72, *SE* = 5.42, *p* < .01) but nonsignificant when comparing cisgender women to gender minorities (*b* = 5.39, S*E* = 4.86).
Total effect model R^2= .139**.
** p < .01, ***p < .001.

Moderated Mediation Analysis

In order to test hypothesis 4, that greater gender centrality among cisgender women and gender minorities would exacerbate perceived negative academic climate and imposter phenomenon, and hypothesis 5, that greater gender centrality among cisgender men will ameliorate the impact of perceived negative academic climate and the imposter phenomenon, a moderated mediation analysis was conducted using a bootstrap estimation approach with 5000 samples, implemented by PROCESS Version 3.5 (model 7; Hayes, 2021). Results indicated that gender centrality did not moderate the effect of gender on perceived academic climate (cisgender men versus cisgender women, *b* = -.082, *t*(133) = -.077*, p* =.939; cisgender men vs. gender

minorities, b = -.032, t(133) = -.013, p =.99; cisgender women vs. gender minorities, b = .049, t(133) = .021, p =.98). Overall, hypotheses 4 and 5 were not supported as results of the moderated mediation analysis revealed that gender centrality did not significantly moderate the indirect path of gender identity on imposter phenomenon through perceived academic climate (***cisgender men versus cisgender women***, -1 *SD* gender centrality, effect = .074, *SE* = 1.31, 95% CI -2.58, 2.65; mean level gender centrality, effect = .075, *SE*= 1.28, 95% CI -2.48, 2.63; +1 *SD* gender centrality, effect= .076, *SE*= 1.37, 95% CI -2.83, 3.02; ***cisgender men versus gender minorities***, -1 *SD* gender centrality, effect = .068, *SE* = 2.27, 95% CI -3.81, 3.93; mean level gender centrality, effect = .068, *SE* = 1.55, 95% CI -2.89, 2.86; +1 *SD* gender centrality, effect = .069, *SE* = 1.30, 95% CI -2.67, 2.85; ***cisgender women versus gender minorities***, -1 *SD* gender centrality, effect = -.006, *SE* = 2.25, 95% CI -4.19, 3.42 ; mean level gender centrality, effect = -.007, *SE* = 1.32, 95% CI -2.41, 2.04; +1 *SD* gender centrality, effect = -.008, *SE* = .60, 95% CI -1.33, 1.18). See Figure 4 and Table 5 for moderated mediation model and path coefficients.

Figure 4.

Moderated Mediation Model

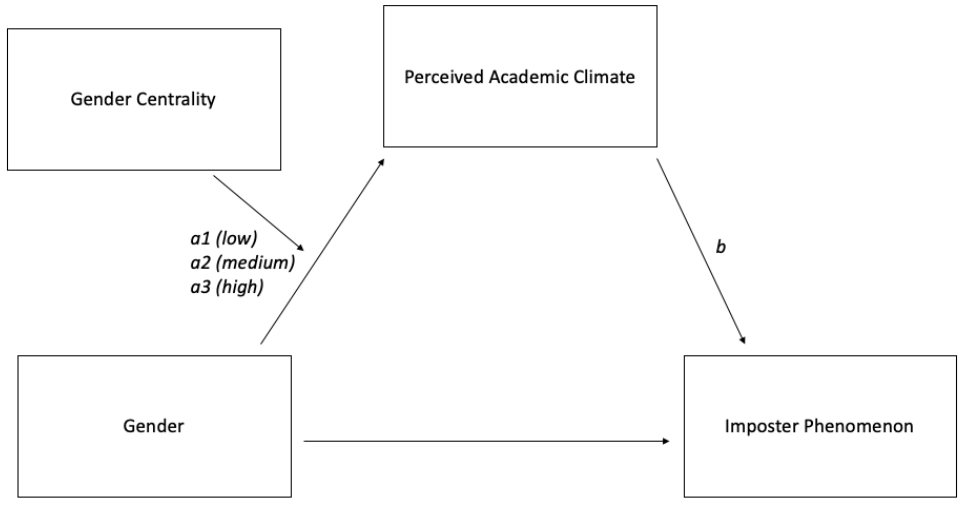


Table 5.

Path Coefficients Corresponding to Figure 2

Path	Cisgender Men v. Cisgender Women *b* (*SE*)	Cisgender Men v. Gender Minorities *b* (*SE*)	Cisgender Women v. Gender Minorities *b* (*SE*)
a1(low)	.074 (1.31)	.068 (2.27)	-.006 (2.25)
a2(med)	.075 (1.28)	.068 (1.55)	-.007 (1.32)
a3(high)	.076 (1.37)	.069 (1.30)	-.008 (.602)
b	-.003 (.048)	-.003 (.048)	-.003 (.048)
ab	-.082(1.05)	-.032 (2.49)	.049 (2.40)

Note. The model represents the moderated relation of gender centrality between gender and perceived academic climate; *a*= test of indirect effect at low, medium, and high gender centrality; *b*= direct effect of perceived academic climate on imposter phenomenon; *ab*= indirect path of gender to imposter phenomenon through perceived academic climate moderated by gender centrality; the direct path of gender to imposter phenomenon controlling for perceived academic climate was significant when comparing cisgender men to cisgender women ($b = 9.32$, $SE = 2.96$, $p < .01$) and when comparing cisgender men to gender minorities ($b = 14.72$, $SE = 5.42$, $p < .01$) but nonsignificant when comparing cisgender women to gender minorities ($b = 5.39$, $SE = 4.86$).
Total effect model= $R^2 = .077$**.
** p < .01.

Chapter 4. Quantitative Discussion

The quantitative component of this study addressed several gaps in the literature by examining the interrelations of gender, gender centrality, perceived academic climate, and imposter phenomenon with data collected from an online self-report survey. Moreover, multiple gender groups were considered, namely cisgender women, cisgender men, and gender minorities. Additionally, perceived academic climate was assessed at multiple levels (individual, interpersonal, institutional) and investigated in the context of psychology. Although the data collected from self-report surveys of psychology majors only partially supported the proposed hypotheses, these findings provide information on mechanisms lacking previous exploration.

As predicted, cisgender women and gender minorities reported higher levels of imposter phenomenon than cisgender men. This finding aligns with other work on the imposter phenomenon where women indicated higher levels of imposter phenomenon as compared to men (e.g., Cusack et al., 2013; Kumar & Jagacinski, 2006). However, the current study marks the first to specifically examine imposter phenomenon amongst gender minorities. It is unclear if gender minorities faced prior neglect in this body of work due to holding an invisible identity, and therefore not accounted for in the study design, or if their gender minority was collapsed with another gender identity as a consequence of limited gender minority participation. Nonetheless, gender minorities reported the highest level of imposter phenomenon among the three gender groups in the current study. While this finding was only significant between gender minorities and cisgender men, evidence suggests that imposter phenomenon occurs similarly in gender minorities and cisgender women.

Even though cisgender men reported lower levels of the imposter phenomenon than the other two gender groups, cisgender men indicated poorer perceptions of academic climate within

psychology than both cisgender women and gender minorities. This evidence opposes the predicted result, which was that cisgender women and gender minorities would perceive academic climate more poorly than cisgender men. Furthermore, this finding also contradicts previous work on perceived academic climate that suggested positive perceptions of academic climate among individuals belonging to dominant social groups and poorer perceptions to those belonging to subordinate groups (e.g., Ancis et al., 2000; Cress, 2007; Yost & Gilmore, 2011). In regard to the simple mediation analysis, findings failed to support perceived academic climate as a mediator between gender and imposter phenomenon. Despite this unexpected result, the current study served to provide initial insight as it is the first to investigate the relations among these variables. Similarly, there was insufficient evidence to support gender centrality as a moderator of the relation between gender and imposter phenomenon through perceived academic climate, but, notably, gender centrality was highest among gender minorities, followed by cisgender women, then cisgender men. Although it was hypothesized that there would be a moderating impact of gender centrality on the aforementioned relation, this finding aligns with the notion that previous research on the moderating impact of gender centrality has been inconclusive (e.g., Bourguignon et al., 2006; London et al., 2012).

Perceived Academic Climate

The current study was the first to examine perceived academic climate in psychology among cisgender men, cisgender women, and gender minorities. Many research studies have investigated academic climate generally, and findings from these studies typically indicated that those in dominant social groups perceived academic climate more positively than those in subordinate social groups (e.g., Ancis et al., 2000; Cress, 2007; Yost & Gilmore, 2011). Results from the current study contradict my hypothesized predictions and previous research as

cisgender men perceived academic climate more negatively than cisgender women and gender minorities. Furthermore, gender significantly predicted perceptions of academic climate when comparing cisgender men and cisgender women. When considering dominant and subordinate groups in society, cisgender men are usually deemed dominant, while cisgender women and gender minorities may be viewed as subordinate. Although much of psychology still applies sexist practices, specifically related to content and publishing (e.g., Willis & Jozkowski, 2018, 2019), the number of cisgender women in psychology surpasses than of cisgender men. Therefore, cisgender women might be considered dominant at the interpersonal- level (e.g., classroom environment, instructors, peers). Power dynamics can also shift based on contextual circumstances (e.g., history, time, physical location; e.g., Greenwood, 2017), which could offer an explanation of the discrepancy between previous studies and the current one. Even though the Perceived Chilly Climate Scale (PCCS; Pyke & Janz, 2000) accounted for perceptions of climate at the individual, interpersonal, and institutional level, these findings may highlight the importance of individual-level and interpersonal-level dynamics when an individual is a part of a numerical minority group. There was not a significant difference between perceptions of academic climate among cisgender women and gender minorities, and gender did not significantly predict perceptions of academic climate when comparing cisgender women and gender minorities. While gender minorities are not part of the numerical majority within psychology, individuals from marginalized backgrounds may frequently pursue a psychology degree to help them understand their own experiences (Settles et al., 2021). Additionally, gender minorities may perceive the academic climate of psychology more positively by gaining social support from peers or instructors with similar backgrounds as psychology tends to be more accepting and inclusive of various identities.

Imposter Phenomenon

Clance and Imes (1978) termed the imposter phenomenon based on work they did with high achieving women that had difficulty internalizing their achievements and often attributed their successes to external factors. Rationale of the imposter phenomenon stemmed from societal stereotypes that performance expectations for women were lower than that of men (e.g., Broverman et al., 1972, Clance & Imes, 1978). While questions on the Clance Imposter Phenomenon Scale (CIP; Clance, 1985) focus on individual-level perceptions, societal stereotypes can lead to consequences on various levels (e.g., systemic-level, institutional-level, interpersonal-level). Consistent with my hypothesized predictions and other research (e.g., Cusack et al., 2013; Kumar & Jagacinski, 2006), cisgender women reported higher levels of imposter phenomenon than cisgender men in the current study. While a lack of recognition for gender minorities exists in previous work on the imposter phenomenon, findings from this work revealed the highest levels of imposter phenomenon occurred among gender minorities. Because there was not a significant difference in levels of the imposter phenomenon between cisgender women and gender minorities, societal stereotypes may play a similar role in the occurrence of imposter phenomenon among gender minorities as they do within cisgender women. Scholarship on gender role stereotypes posits that underrepresentation of cisgender women in high achieving fields may contribute to perceptions of success as these stereotypes can be internalized at the individual-level and maintained at the interpersonal, institutional, and systemic levels (e.g., Alan et al., 2018; Eccles, 1987). Given that gender minorities often face identity invisibility within society due to their minority identity status, it is likely that these individuals encounter similar, if not more, representation issues related to success as cisgender women. Furthermore, imposter phenomenon has been linked to anticipated negative evaluation (Thompson et al., 2000) and self-

presentation concerns (Ferrari & Thompson, 2006), and may be heightened for gender minorities given their minority identity status within society (Levitt & Ippolito, 2014).

Gender Centrality

Among women in STEM, gender centrality has acted as a moderator of academic climate in relation to adverse psychological outcomes (e.g., Settles, 2004; Settles, 2016). Through the current study, I strived to enhance the literature by assessing the moderating impact of gender centrality on the relation between gender and imposter phenomenon through perceived academic climate among psychology majors, and to also recognize the variation of gender centrality among gender minorities and cisgender men in addition to cisgender women. The moderated mediation model was nonsignificant, but previous research in this realm has recognized the complexity of gender centrality as a moderator, at times showing conflicting findings. In some cases, gender centrality may act as a protective mechanism (Bourguignon et al., 2006), but it can also enhance the threat of an environment due to heightened awareness (London et al., 2012). Although the moderated mediation effect was nonsignificant in the current study, differences in gender centrality were significantly different between groups. Gender minorities reported the highest levels of gender centrality, and cisgender men reported the lowest levels of gender centrality in the current study. This finding reinforces that individuals belonging to dominant groups in society fail to recognize those identities in relation to their self-concept (Neville et al., 2001).

Limitations and Future Directions

Several limitations must be considered when generalizing these findings to undergraduate psychology majors. At least three limitations were present related to the sample and data collection. First, the COVID-19 pandemic started in Spring 2020. The circumstances

surrounding the pandemic lead to university closures and/or online instruction across the United States. Because data collection occurred in Spring 2022, many participants were impacted by the COVID-19 circumstances as undergraduate university students. Participants may have had more or less exposure to face-to-face instruction given their class ranking (i.e., freshman, sophomore, junior, senior) and based on the university policies related to the pandemic. This may have threatened my ability to adequately test my hypotheses due to variation in exposure to the campus, face-to-face classroom environments, instructors, and classmates. Second, this portion of the study was only available online, which may have created bias in the participants that actually completed the survey. Individuals without internet access did not have an equal opportunity to complete this portion of the study. Consistent access to internet could potentially play a role in how an individual perceives academic climate as well as the imposter phenomenon. For example, online technology, with systems such as Blackboard, Canvas, and Desire2Learn, are commonly used in higher education for assignments, gradebook storage, student to student interactions, and student to faculty interactions (Paynter & Barnes, 2021). Students with limited access to internet may perceive climate differently than those that have consistent internet access. Likewise, information is not as readily available to those without internet, which could influence self-doubt and imposter feelings. Third, although the overall sample size determined by a G*Power analysis was obtained, when gender was separated into three groups, the groups were not of equal size. Moreover, far fewer gender minorities completed the survey as compared to cisgender women and cisgender men. Due to these issues, findings from the current study should be considered in light of low statistical power and high margin of error.

In addition to the aforementioned limitations, there are at least four limitations associated with the study methods. First, all of the data were based on self-report from participants.

Participants may have answered questions untruthfully or inadequately in order to appease study objectives or due to the inability to assess themselves or misunderstanding the question. Second, the CIP (Clance, 1985) was used in its standard version and not adapted specific to the field of psychology for the current study. Although questions about perceived academic climate in psychology were presented to participants prior to completing questions about the imposter phenomenon, this may explain why there was insufficient evidence supporting the mediating impact of perceived academic climate on the imposter phenomenon. In hindsight, this is particularly problematic because individuals likely reported overall instances of imposter phenomenon instead of imposter phenomenon exclusive to psychology. Third, study variables (i.e., perceived academic climate, imposter phenomenon, gender centrality) were not significantly correlated with each other, which corresponds with the nonsignificant simple mediation and nonsignificant moderated mediation in this study. However, there was a significant difference in perceptions of academic climate when comparing cisgender men to cisgender women, and there was a significant difference in imposter phenomenon when comparing cisgender men to cisgender women and cisgender men to gender minorities. These findings suggest that gender may be related to perceived academic climate and imposter phenomenon, but perceived academic climate and imposter phenomenon are not related to one another. While it is possible that there is not a significant correlation among these variables, future researchers should use instruments that are aligned by the same level (e.g., individual, interpersonal, institutional, systemic) and remain in the same context (e.g., discipline of psychology), as inconsistent measures in the current study could have led to inadequate results.

Fourth, the study attempted to recognize aspects of intersectionality by acknowledging both dominant and subordinate groups (Cole, 2009), including covariates of multiple identities

(race, sexual orientation, first-generation student), and examining multiple-levels of perceived academic climate (individual, interpersonal, institutional). Despite these efforts, the quantitative portion of the study cannot be considered truly intersectional. There was a strong emphasis was on identity, assessed by way of single-axis categories, without recognition of how multiple identities work together to shape power and oppression within psychology (e.g., Collins, 1990; Crenshaw, 1989, 1991). Examining identity using single-axis categorizations implies an additive model, which neglects the interdependence of identities on experience (Hankivsky & Comier, 2011). Although aspects of intersectionality can be additive (Else-Quest & Hyde, 2016), overemphasizing additive effects may hinder a well-rounded understanding of researched mechanisms. Additive models in quantitative research can be difficult to avoid, however, the single-axis issue with this study could have been prevented by explicitly incorporating combinations of identity prior to analyses instead of just accounting for covariates. For example, examining the experiences of individuals of a specific gender, specific race, and specific socioeconomic status. Additionally, gender minorities were categorized as one group without recognition of the nuance within the group. Assuming that all individuals that identify as gender minorities have the same experiences may lead to increased invisibility of those within the group. Last, systemic factors are difficult to assess through survey questions and were not directly investigated in this work. At the very least, considering external barriers or privileges experienced by participants could have scratched the surface of systemic contributions.

The current study offers novel information as many of the components have not previously been considered in the context of psychology. Nonetheless, the full picture of the interrelations among gender, gender centrality, perceived academic climate, and the imposter phenomenon remain unclear. Future researchers should align the levels of study measures. In

other words, if the measure for perceived academic climate accounts for individual, interpersonal, and institutional dynamics, then the measure for imposter phenomenon should mirror that. Likewise, the imposter phenomenon measure should be adapted to account for a specific context (e.g., imposter feelings in psychology). These suggestions may help remedy the issues faced with the simple mediation and moderated mediation analyses in this study. The complexity of intersectionality research can make it difficult to implement solely from a quantitative perspective, especially since identities are not simply additive and systemic-level factors play a primary role in the way an individual's multiple identities interact within society. Without including a qualitative component, the research methods utilized in this study were not completely intersectional.

Implications for Translating Findings

Despite the limitations of the current study, two primary implications were identified. First, findings support the idea that individuals are not solely attached to a dominant or subordinate identity and power may vary based on contextual factors (e.g., Case, 2017; Greenwood, 2017) as cisgender men reported poorer perceptions of academic climate within psychology. Although cisgender men typically tend to hold more power in society through systemic forces, this may not translate in the discipline of psychology, specifically at the individual, interpersonal, and institutional levels as measured by the PCCS. Historically, individuals holding a subordinate identity (e.g., cisgender women/ gender minorities) have faced exclusion in the higher education system through lack of representation (Brown, 2004; Helm et al., 1998), while individuals holding a dominate identity (e.g., cisgender men) failed to recognize their advantages as the foundation of the system was built around them (Helm et al., 1998). Cisgender men may perceive the academic climate of psychology poorly due to lack of

representation as cisgender women make up the numerical majority in the field. Moreover, the higher education system typically caters to cisgender men, which could make this underrepresentation more noticeable. While it is important for educators to represent subordinate social groups in content, this should not come at the cost of excluding individuals from dominant social groups. Moving forward, educators can create a more inclusive environment for all students by mindfully representing both subordinate and dominant social groups, particularly since individuals hold multiple social identities that may be either subordinate or dominant.

On the contrary, cisgender women and gender minorities reported greater levels of the imposter phenomenon as compared to cisgender men, even though cisgender men reported poorer perceptions of academic climate. As mentioned, systemic-level factors were not assessed in this study, but individual, interpersonal, and institutional factors were. Considering these findings and given that the imposter phenomenon is rooted in societal stereotypes related to achievement (e.g., Broverman et al., 1972; Clance & Imes, 1978), the systemic impact may play a larger role when it comes to imposter phenomenon than other levels. It could be difficult to pinpoint the root of imposter phenomenon as it likely stems from stereotypes that are maintained through interpersonal, institutional, and systemic level interactions as well as internalized within the individual. Likewise, systemic-level factors can be difficult to study, and therefore, challenging to change. However, systemic-level change may take form of creating laws and policies that limit opportunities of achievement or success for those in subordinate groups. Additionally, implementing interventions at the individual (e.g., identifying self-limiting beliefs), interpersonal (e.g., representing subordinate identities in successful roles), and institutional levels (e.g., diversifying faculty; departmental trainings) may contribute to overcoming imposter phenomenon because stereotypes are maintained at many different levels.

Conclusion

The quantitative portion of this study contributes to the existing literature by recognizing variation of experience among cisgender women, cisgender men, and gender minorities. It also serves as a starting point for researchers interested in studying variations in perception of academic climate within psychology and the imposter phenomenon. Valuable information about group differences was gained from this study, despite only having partial support for the proposed hypotheses. Moving forward, educators should be more aware of the shift in power dynamics based on gender within psychology classes. Likewise, interventions at the systemic level may be necessary to counteract the impact of imposter phenomenon.

Chapter 5. Qualitative Method

Participant Recruitment

For study eligibility, individuals had to be at least 18 years of age, identify as an undergraduate psychology major at a university, and reside in the United States at the time of participation. Multiple strategies were utilized to maximize recruitment, including a mass email sent to ETSU psychology listservs, face-to-face advertising in ETSU psychology classes, flyer posts in the ETSU Pride center, and the ETSU Sona Systems undergraduate psychology participant pool. To recruit from the general public, paid ads were posted on Facebook and Instagram, study information was posted on Reddit and Tumblr, and the flyer was shared with my own psychology contacts across the nation. My contacts were asked to share the flyer with their contacts and any applicable professional organizations in which they belonged. Additionally, individuals that completed the quantitative component of the study had the option to fill-out an online screener for potential participation in the qualitative component. Compensation varied based on the recruitment modality. Individuals recruited through the Sona System received course credit (1.0 Sona Credit) for their research participation, and all other participants will be entered in a drawing to win one of four Amazon gift cards ($25 each).

Materials

Software and Social Media Platforms- Recruitment

Sona Systems. The psychology department at ETSU utilizes the Sona Systems software, which is a cloud-based software that allows researchers to recruit participants, create studies, and organize participant pools, particularly in university settings (Sona Systems, 2018). The current study was advertised through Sona Systems to target psychology majors. Students recruited through this outlet had the opportunity to receive course credit upon completion of the study.

Social Media Platforms. Several social media platforms were used to recruit participants, including Facebook (paid ads), Instagram (paid ads), Reddit, and Tumblr.

Software Platforms- Data Collection and Analysis

Google Voice. Google Voice generates a phone number that can be used for calls and texts through web browsers and mobile phones (GoogleVoice, 2022). A phone number was generated for the current study as a way for the researcher to interact with participants as well as conduct and record interviews.

Trint. Trint software serves as an audio transcription tool that converts audio files into interview transcripts (Trint, 2021). Recorded audio files from interviews were extracted from Google Voice and uploaded into Trint for transcription.

NVivo. Commonly used for qualitative and mixed-methods research, NVivo is a software that provides analytic tools that assist researchers in collecting, analyzing, and organizing data (QSR International Pty Ltd., 2018). NVivo 12 Pro (released in March 2018) was used in the current study for organization and analyses of qualitative data.

Semi-Structured Interview Questions

Demographics

The demographic questions included questions regarding age, race/ethnicity, class ranking, first-generation student status, sexual orientation, gender identity, and current university.

Identity Centrality

Identity centrality was assessed with one question, “What are the aspects of the identity that hold more value to you in the way that you see yourself?”, and participants were allowed to

list all identities that applied. In other words, participants were not limited in the number of identities they could list in answering the question.

Perceived Academic Climate

Perceived academic climate of psychology was assessed with eight questions and five sub-questions. These questions were categorized into three areas, including Identity and Psychology as a Discipline, Identity and Psychology Classes at Current University, and Identity and Interpersonal Interactions in Psychology. Sample questions include, "When you think of all of your social identities coming together to shape your experiences as a psychology student, how do you think your multiple identities have impacted the way you view psychology as a whole (psychological textbooks, classroom environment, coursework, interactions with faculty)?", "Thinking of your multiple social identities, in what ways have you benefited (for example, being acknowledged in class, accepted by peers/instructors, or ability to relate to course content) in your psychology classes?", and "What kind of support (for example, a safe space to express your opinions, provides supplemental support resources, assists you with content) do you receive from your psychology instructors?".

Imposter Phenomenon

Imposter phenomenon related to psychology was assessed with four questions and three sub-questions. Sample questions include, "Some individuals doubt their abilities in certain environments, which leads them to feel like they do not belong. These feelings may result in attributing their successes to a fluke or luck (instead of their own abilities). Additionally, they may believe their success cannot be repeated. Have you ever felt all or any of these feelings in your psychology classes? Please elaborate.", and "How do you think your multiple social

identities have contributed to your feelings toward your ability to succeed (good grades, content comprehension, retention) in your psychology classes?".

For a full list of interview questions, see Appendix F.

Procedure

The researcher obtained approval from the IRB at ETSU prior to the recruitment of human participants and data collection. Potential participants completed an online screener through a REDCap link. This link was distributed to individuals through flyers and ads (via social media, email listservs, psychology contacts, physical flyers), face-to-face (in psychology classes), and the Sona System. Individuals who completed the quantitative portion of the study were provided with the qualitative screener link upon completion. Those that met requirements of the study were contracted by the researcher through email, where they were asked to set-up an interview time and provided with an informed consent document. Potential participants were sent a reminder email for their scheduled interview time 24 hours before the interview was set to take place. At the time of the interview, the interviewer verbally went over the informed consent document, and verbal consent was obtained before moving forward. After consent was obtained, semi-structured interviews, with questions approved by the IRB, were conducted over the phone and recorded through Google Voice. Interviews began with demographic based questions, followed by questions related to the individual's multiple identities, perceptions of academic climate, the imposter phenomenon, and, finally, questions targeting the overall interaction of the aforementioned components shaping their experiences. The interviews ranged between 30 to 60 minutes. After the call, the participants were emailed free mental health resources and a link to the quantitative component (if they had not already participated in that portion).

Data Analyses

Researcher Positionality

Considering the goal of the qualitative component centered around understanding power dynamics within psychology based on multiple social identities in order to promote change, a feminist approach was utilized in this process (Leavy, 2007). Moreover, I practiced reflexivity (acknowledgement of personal positionality; Leavy, 2007; Braun & Clarke, 2022) throughout the research process, including creation of interview questions, engaging with participants, and analysis of the data. Because reflexivity is an ongoing process (Braun & Clarke, 2022), I took an active approach by keeping a reflexive journal. I made my first journal entry before creating my interview questions, and I continued making entries throughout the interview and data analysis processes. I identify as White, and a cisgender, heterosexual woman that has spent close to a decade in higher education as a psychology student. Throughout this period, money has been a struggle, which has resulted in working multiple jobs (sometimes more than one job at a time) and taking out student loans. Additionally, I have spent the last three years as a psychology instructor (teaching assistant and associate) at East Tennessee State University. Given my combination of social group identities, I have experienced both advantages and disadvantages during my time in higher education. Mindful of my own social group identities, I was careful not to overidentify with my participants to prevent biasing the recollection of their own experiences through the interview process.

Reflexive Thematic Analysis

Approach. Despite conscious attempts not to explicitly bias narratives of the participants, an interrelated impact exists between researchers and participants as each person contributes their own social group identities and beliefs to the exchange (Hayes & Singh, 2012).

Therefore, it was important to acknowledge participant subjectivity in addition to my own subjectivity throughout the research process. Analyses in the current work were primarily inductive (data-driven), in order to represent experiences and perspectives of participants to the best of my ability. In this way, the inductive orientation highlighted participant subjectivity. However, there were minor deductive elements present given my prior knowledge and familiarity of academic climate, imposter phenomenon, and intersectionality. A reflexive thematic analysis approach was implemented to analyze interview data as research subjectivity is a primary component of this process (Braun & Clarke, 2022). Reflexive thematic analysis offered depth and flexibility (Braun & Clarke, 2022) that aligned with my feminist approach to inquiry as patterned meaning driven by participant narratives could provide visibility to those that face underrepresentation within the discipline of psychology and how instances of power and oppression may contribute to imposter feelings.

Process. Braun and Clarke's (2022) six phase reflexive thematic analysis process was utilized in the current study. *In phase 1*, I familiarized myself with the dataset by reading each transcript in its entirety, listening to each recorded interview, and taking notes related to individual items, interviews, and the entire dataset. *In phase 2*, interview transcripts were uploaded into NVivio, and specific segments of meaningful data were coded systematically throughout the dataset. Explicitly expressed meanings took priority in the coding process as inductive codes are more often semantic (Braun & Clarke, 2022). Phase 2 was repeated twice. During the first round of coding, I started with interview 1 and worked sequentially to interview 14, whereas I started with interview 14 and worked backwards to interview 1 during the second round of coding.

Reflexive thematic analysis values subjectivity of the researcher's engagement with the data and analysis, so collaborative coding is not a requirement of this approach (Braun & Clarke, 2022). However, to help bolster my interpretation of the data, I enlisted a fellow doctoral student to assist in this phase. To clarify, the focus of collaborative coding was not on reliability, but it was utilized to help in the interpretation of the data and establish themes based on varying perspectives (Byrne, 2022). While this doctoral student shared several identities with me, namely identifying as a White, heterosexual, cisgender woman, she taught psychology courses for 7 years at a community college before returning to school for her Ph.D. There is also a 19-year age gap between the two of us. I provided her with 35% (n = 5) of the transcripts and asked her to create codes, which I ultimately ended up comparing to the codes that I created. Codes are specific segments of data that act as a building block for theme generation, whereas a theme holds multi-faceted meaning which shows a pattern across the dataset (Braun & Clarke, 2022). *In phase 3*, potential themes were identified by compiling codes (from phase 2) with similar core concepts into groups. Visual mapping, through drawing thematic maps by hand, took place during this phase, so I could identify how potential themes related to each other and to map out the story occurring through my data. *In phase 4*, I reviewed my potential themes against the data extracts. Potential themes and groups of codes were reworked as I reviewed them against the data extracts. After revising the potential themes, I reviewed them against the entirety of each interview transcript. During this phase, the same doctoral student (as mentioned above) was assigned another 35% of transcripts (n = 5; different transcripts than those she worked with in phase 2). This time, I asked her to apply my potential themes and groups of codes, in which we later discussed. As she was working on this, I spent several days immersing myself in literature on academic climate, imposter phenomenon, and intersectionality to investigate prevalent

patterns that occurred in previous work. Taking her feedback and the literature into consideration, minor revisions were made to themes prior to finalization. *In phase 5*, brief abstracts and definitions were written for each theme, which helped with the organization of data reporting. Theme names were also finalized during this phase. *In phase 6*, data reporting and the final write-up took place.

Chapter 6. Qualitative Results

Sample Demographics

The mean age of participants was 20.4 (*SD* = 1.50) and ranged from 18 to 23 years old. The sample was comprised of 71.4% (*n* = 10) cisgender women and 28.6% (*n* = 4) gender minorities. All gender minorities identified as feminine presenting. Participants were allowed to report as many racial/ethnic identities that applied, and the sample identified as White/ Caucasian (*n* = 10), Black/ African American (*n* = 2), Asian (*n* = 2), Chinese (*n* =1), Taiwanese (*n* =1), Hispanic (*n* = 1), and Ukrainian (*n* = 1). For sexual orientation, the majority of participants (*n* = 9) identified as a sexual minority (i.e., bisexual, lesbian, asexual, panromantic, questioning, pansexual, demisexual, queer), while the other participants identified as heterosexual (*n* = 3) and preferred not to answer (*n* =1). Of the 14 participants, roughly 21.4% (*n* = 3) self-identified as freshman, 28.6% (*n* = 4) as sophomores, and 50.0% (*n* = 7) as seniors. Approximately 43% of the sample reported first-generation college student status (*n* = 6). To protect confidentiality, pseudonyms were assigned to participants. See Table 6 for detailed participant demographics.

Table 6.

Qualitative Participant Demographics

Pseudonym	Racial/ Ethnic Identity	Gender Identity	Sexual Identity	First- Generation Student	Identity Centrality
Ariel	White	Ciswoman	Bisexual	Yes	Gender, Sexuality, Spirituality
Tiffany	White	Ciswoman	Asexual, Panromantic	No	Gender, Sexuality, Race
Rachel	White	Ciswoman	Heterosexual	No	Gender, SES
Danielle	Black	Ciswoman	Heterosexual	No	Gender, SES, Race
Lynn	East Asian	Ciswoman	Questioning	Yes	Gender, SES, Race
Jennifer	Hispanic, Latino	Ciswoman	Heterosexual	Yes	Race, First-generation immigrant, Athlete
Chelsea	White	Ciswoman	No answer	No	Gender, Student
Briana	Black, African American, White	Ciswoman	Heterosexual	No	Gender, Race, Age
Sally	Asian, Chinese, Taiwanese	Ciswoman	Bisexual, Pansexual	No	Race, Neurodivergent
Alex	White	Non-binary	Pansexual	No	Gender, Sexuality

Taylor	White, Ukrainian	Genderfluid, Genderqueer	Bisexual, Demisexual	Yes	Gender, Sexuality, SES
Hannah	White	Ciswoman	Asexual	Yes	Sexuality
Jessie	White	"Womanhood is a mountain, and I am at the base… kind of girl"	Lesbian	No	Gender, Sexuality
Cam	White	Non-binary	Queer	Yes	First-generation student, Care-provider

Themes

Six themes were identified regarding the interconnectedness of perceived academic climate, imposter phenomenon, and multiple social identities among psychology majors: 1) benefits of psychology, 2) barriers of psychology, 3) stereotypic view of psychology, 4) privileged perspective, 5) imposter phenomenon connections, 6) enhancing and maintaining success (see Table 7 for theme summary table). In the paragraphs that follow, I describe in detail each of the themes with corresponding excerpts from participant transcripts. Of note, pronouns used to describe participant excerpts align with pronouns provided by participants during interviews. In the theme descriptions, I acknowledge which identities were discussed within each theme to reveal the identities most associated with power and oppression as a psychology major. To clarify, numerical reporting of themes is antithetical to a reflexive thematic analysis approach (Braun & Clarke, 2022), and I have not quantified themes with my numerical reporting. Instead, I have included the number of identities mentioned under each theme to provide insight on specific identities that may be impacted the most. Participants were not asked to separate each identity when responding to interview questions, but they could if they wanted to highlight an experience based on a certain identity. Alternatively, interview questions aimed to measure intersecting and interdependent experiences as opposed to taking a strictly additive approach (Bowleg, 2008).

Table 7.

Theme Summary Table

Themes	**Concepts**
Benefits of Psychology *Advantages that individuals encountered as psychology majors based on their social identities*	1. Welcoming and Inclusive Environment 2. Identity Representation and Validation 3. Positive Classmate Encounters 4. Supportive Faculty
Barriers of Psychology *Disadvantages that individuals faced as psychology majors based on their social identities*	1. Inaccessible Education 2. Lack of Representation 3. Multiple Identities Not Recognized 4. Outdated Content
Stereotypic View of Psychology *Societal notions of psychology that contributed to the pursuit of a psychology degree and interpersonal interactions in the discipline*	1. Mostly Women and Lack of men 2. Psychology as Inferior Field 3. Socialization to Help Others
Privileged Perspective *Recognition of unearned advantages within psychology based on social identities, and the use of privilege to reduce mistreatment of others*	1. Privilege Awareness 2. Attempts to Reduce Marginalization
Imposter Phenomenon Connections *Mechanisms that played a part in the imposter phenomenon among psychology majors*	1. Lack of Confidence 2. Getting Lucky 3. Identity Specific Influence 4. STEM or Research Content
Enhancing/ Maintaining Success *Strategies that currently, or could potentially, amplify success among psychology majors*	1. Self-Motivation 2. External Support Systems 3. Institutional-level Changes 4. Increasing Institutional Support

Benefits of Psychology

The theme *benefits of psychology* revolved around advantages that individuals encountered as psychology majors. More specifically, a primary component of this theme considered how participants were afforded benefits as they navigated the discipline of psychology based on the multiple social identities they hold. The benefits reported by participants revealed how advantage occurred at various levels simultaneously, which highlighted the complex dynamic of multiple social identities and instances of privilege within the discipline. Subthemes consisted of: 1) welcoming and inclusive environment, 2) identity validation, 3) positive classmate encounters, and 4) support from faculty. All participants (n = 14) expressed having benefited within the discipline of psychology. While benefits were often discussed more generally, specific identities associated with benefits of psychology were gender (cisgender = 9; gender minority = 4), race/ ethnicity (White = 5; Asian = 1; Black = 1), sexual identity (sexual minority = 6), mental health ability (condition not specified = 2), and religion (spiritual = 1). Roughly 64% (n = 9) of participants expressed benefits of psychology based on *at least* one social identity they identified as being central to their self-concept (i.e., identity centrality).

Subtheme 1.1: Welcoming and Inclusive Environment

Participants often characterized psychology departments at the universities they attended as welcoming and inclusive to individuals from all backgrounds. Benefits from this type of environment were linked to safety and belonging for groups that are commonly marginalized in society. As an example, Briana highlighted safety among diverse groups within the psychology department at her university:

"I think, as a whole, the psychology department is very welcoming. It does feel like a very safe zone that welcomes all kinds of different identities. I think that makes it easier just being a student who might identify as different or underrepresented and marginalized."

Subtheme 1.2: Identity Representation and Validation

Perceptions of welcoming psychology departments were regularly associated with having aspects of identity represented within the content. Oftentimes, participants expressed benefiting from discussions, readings, and lectures related to their identities that they are less familiar with or considered subordinate in most spaces. For instance, Ariel described how the representation of her bisexual and spiritual identities contributed to feelings of validation:

"It wasn't until I started college, really, that I discovered that I was bisexual and that I was not Christian rather than just spiritual. Through a lot of my psychology classes it talks about the LGBTQ community. Also, in my human development class, it talks about how one of the biggest transitions in life is, like, based on religion. And so, I've gotten to see psychology within myself…I am like validated because it confirms that these things are natural and supposed to be happening."

Subtheme 1.3: Positive Classmate Encounters

Similar to the benefits of identity representation in the content of psychology classes, some participants expressed benefiting from representation through interpersonal interactions. Positive classmate encounters stemmed from sharing social identities with classmates, which allowed for transparency and mutual understanding. To illustrate, Tiffany relayed how her gender identity (cisgender woman) and sexual identity (asexual/ panromantic) played a part in her positive classmate encounters:

"Most of my psychology classes have honestly been mostly women, and most of them are somewhere on the LGBT spectrum…I have benefited in being more open with my classmates, not being afraid to be myself, because all of them are studying the same thing as me and with my demographics, especially the LGBT part."

Subtheme 1.4: Support from Faculty

Interactions with psychology faculty were commonly associated with support and safety. Psychology faculty were often described as providing support for students that extended beyond the classroom. Support was provided in the classroom by providing a safe environment and flexible deadlines for students, but faculty also connected students to external resources, when necessary. Cam discussed how they benefitted from the support they received from their psychology professors during difficult times:

"My psychology instructors, in my opinion, are usually the most helpful with just about anything... I have yet to be in a psych class that didn't, you know, stress that it was a safe space. More on a one-on-one basis with my professors, I definitely have had to discuss, with a few of them, to let them know about my struggles with mental health or family, and they are nothing but helpful. They will contact the school, so that the school can refer me some mental health services, if I need it. The professors will, you know, refer any mental health stuff as I need it, and they'll even help me out directly to come up with a study plan or goals to meet in the next few weeks."

Barriers of Psychology

The theme *barriers of psychology* explored disadvantages that individuals faced as psychology majors. A prevalent aspect of this theme revealed how participants faced barriers as they navigated the discipline of psychology based on the multiple social identities they held. The barriers reported by participants exposed disadvantages that created oppressive circumstances which made it more difficult to succeed within the discipline. Subthemes consisted of: 1) inaccessible education, 2) lack of representation, 3) multiple identities not recognized, and 4) outdated/ narrow content. All participants (n = 14) revealed barriers of psychology they had faced. Barriers were often reported in general terms, however, identities mentioned by participants were quite varied: mental health ability (condition not specified = 2; anxiety = 1; depression = 1; ADHD = 1; neurodivergence = 1), sexual identity (sexual minority = 5), gender (gender minority = 4), race/ethnicity (Asian = 1; Black = 1; Hispanic = 1) and SES (low income

= 3). Approximately 57% (n = 8) of participants mentioned barriers of psychology related to *at least* one social identity they identified as being central to their self-concept (i.e., identity centrality).

Subtheme 2.1: Inaccessible Education

Several participants identified the inability to access course content and meet physical course requirements as a barrier of their psychology education. Connectedness of social identity, psychology faculty, and psychology courses was prevalent in accounts of inaccessibility. For example, Sally described how she has faced barriers as a neurodivergent psychology student:

"I think there is not a whole lot of accessible psych classes. The further we climb into the 300-level or the 400-level classes, the more demanding the workload is and the less exceptions professors can make. In some cases, they get stricter, so I feel like neurodivergent people, in general, do not have a great time in psych courses here [specific university]. A lot of the psych courses restrict you from recording the lectures or being able to view them from, like, home and such, so ability is definitely a hinderance when it comes to psych courses on campus."

Subtheme 2.2: Lack of representation

Another prevalent barrier reported by participants was lack of social group representation in the content of their psychology classes. Lack of representation occurred when a social group, in which a participant belonged, was not acknowledged at all or was only included minimally in the content. For instance, Jennifer reported that the psychology department at her university failed to acknowledge Hispanic individuals:

"One of the least aspects of my social identity that I've seen in the psych department has been Hispanic. I think, generally, it's very easy to go into a racial binary. So, either talking only about White people or talking only about Black people."

Tiffany also described lack of acknowledgement of a social group in which she belonged. However, unlike Jennifer, the lack of LGBT representation she discussed was not entirely invisible.

"I wish that more LGBT focuses were in my psychology courses. I know that there's some, but it's mentioned more in a footnote. That can be a little bit frustrating."

Subtheme 2.3: Multiple Identities Not Recognized

While participants recalled both instances of social group representation and lack of representation in psychology, the culmination of an individual's multiple social identities was often neglected. Individuals belong to multiple social groups simultaneously, which cannot necessarily be separated. Participants faced barriers due to the lack of comprehensive social group recognition within psychology. To illustrate, Sally mentioned that she has not been able to relate to a single faculty member that shares all of her identities:

"I see all of my social identities coming together most of the time, like neurodivergent, cisgender, female, Asian. All of this, I see as one. As of now, I can't think of a single faculty member who shares all of this in common with me."

Similarly, Briana revealed that she has yet to have a class that incorporates all of her social identities.

"I don't know that I would say I have had one class that I felt like represented all of my social identities."

Subtheme 2.4: Outdated Content

Additionally, some participants viewed outdated content related to their social identities as a barrier of psychology. Outdated content lacked accuracy, inhibited learning, and led to negative feelings. Cam expressed their experience with outdated content about the queer community in their psychology classes, and they described how it was difficult to encounter:

"Sometimes the course content can be slightly outdated. As somebody who is in a minority group, you know, in the queer community, sometimes seeing outdated terms or outdated phrases…things that are not considered acceptable or polite in the queer community anymore, sometimes that can be rough to hear."

Stereotypic View of Psychology

The theme *stereotypic view of psychology* recognized societal notions of the discipline that impacted the pursuit of a psychology degree and interpersonal encounters within the field. Participants reported how stereotypes surrounding the discipline influenced perceptions of themselves as psychology majors, perceptions of those that enter (or do not enter) the discipline, and perceptions of the discipline itself. Subthemes consisted of: 1) mostly women and lack of men, 2) psychology as an inferior field, and 3) socialization to help others. Many participants (n = 11) discussed a stereotypic impact of psychology. Related to social identities, participants reported a lack of cisgender men (n = 2) and highlighted a surplus of cisgender women (n = 11).

Subtheme 3.1: Mostly Women and Lack of Men in Interpersonal Dynamics

The majority of participants discussed psychology as predominately comprised of women with a lack of men. Moreover, interpersonal dynamics within psychology classes often revolved around women due to the high volume of women as both students and professors. Jennifer described how men were often neglected in classes as a result of the large number of women in the field:

"In the psych department, it is very clear that there is a lot more women in classes as well as professors… there's probably more discussion revolving around women than men. And whenever there has been men in classes, we haven't really seen their perspective firsthand."

Subtheme 3.2: Psychology as an Inferior Field

Not only was psychology portrayed as a women's field, but psychology was commonly described as an inferior field, especially when compared to STEM. Additionally, some participants perceived psychology as an inferior field due to women being of the numerical majority. For instance, Rachel recognized how her own biases of women and STEM contributed to her perception of psychology:

"I think of psychology and other liberal arts degrees as easier than, say, STEM ones. I probably do have some sort of bias there, probably because more women go into it more than STEM or math degrees."

Subtheme 3.3: Socialization to Help Others

The high volume of women in psychology may be related to societal stereotypes around gender. Participants often related the pursuit of a psychology degree to being socialized to help others. Gender role stereotypes were discussed in helping behavior, as women and individuals assigned female at birth indicated a push to help others throughout their lives. On the other hand, some participants spoke to why there may be limited men that pursue a psychology degree. For example, Lynn spoke about how socialization influenced her pursuit of psychology:

"Being female, I think has also played a big role [in pursuing psychology], just because of the way I was socialized. I feel like I was socialized to, like, I guess look out for other people and care for other people as well."

Additionally, Jessie highlighted how stereotypical gender roles may lead to stigmatization of men that pursue psychology:

"I feel like there's kind of a stigma, at least at the undergraduate level, a stigma around men in psychology. I think it has the perception of like, 'Oh, psychology, you're gonna do therapy? Oh, you want to help people? That's what girls do.'"

Privileged Perspective

The theme *privileged perspective* emphasized ways that social identity can lead to unearned advantages within the discipline of psychology. Moreover, this theme acknowledged the ability for participants to identify their own privilege as a psychology student and if they have used their privilege to enhance ally behavior among marginalized groups. Subthemes consisted of: 1) privilege awareness and 2) attempts to reduce marginalization. A privileged perspective was common among the participants (n = 9). Privilege awareness was reported in terms of gender identity (cisgender = 5), race (White = 4), SES (middle-high income = 2), and

sexual identity (heterosexual = 1). On the other hand, participants explicitly recognized marginalization of others based on gender identity (cisgender men = 2), SES (low income = 2), and race/ethnicity (Asian = 1; Black = 1).

Subtheme 4.1: Privilege Awareness

Several participants acknowledged their own privileges based on social identity, and they discussed how these privileges may provide them with unearned advantages that their classmates do not always have. Additionally, some participants revealed that they have obtained greater insight on their privileges based on content they have learned in their psychology classes. Chelsea expressed that she had the privilege of being exposed to psychology content prior to starting college due to her higher-income upbringing and opportunity to take dual enrollment courses:

"I took some dual enrollment psychology classes as my high school, so I feel like pursuing a psychology degree is a little easier. Like, I've already had that background, and I was ahead by the time I got here [to college]. Individuals who didn't really have that, maybe their socioeconomic status is different than mine…so their high school that they attended was a little different or their experiences as a whole were different, so that makes things harder."

Similarly, Jessie described multiple privileges due to their race (White), such as visibility in course content, historical representation, and lessened stressors. They also emphasized how psychology classes have helped in their understanding of privilege.

"In terms of race, I feel like my psychology major has kind of helped me unpack the privilege I hold as a White American, like how much less is on my mind and how much less I have to worry about… and, um, I mean, I think my Whiteness is just well represented in case studies that have been performed historically and well represented in textbooks and stuff."

Subtheme 4.2: Attempts to Reduce Marginalization

Attempts to reduce marginalization stemmed from participants that acknowledged their own privilege in the field of psychology and offered allyship by attempting to use their privileges to combat the oppression of groups in which they do not belong. Taylor communicated that they

strive to reduce marginalization by changing their own behavior after witnessing mistreatment of a fellow psychology classmate:

"One of my friends, who is also a psychology major, identifies as a Black, queer woman. I noticed that she has to fight a lot harder for her voice to be heard in class than a lot of her peers…I want to touch on how this has impacted how I look at the classroom. I am able to, you know, take a step back and be like 'Wait, am I thinking about this rationally and am I speaking over other students? Have I given every student in my class, especially those that are less privileged than me, the area or room to speak up?'…And so, whenever I am in class, I try to think through that lens and make sure I'm not speaking over someone instead of uplifting their voices."

Imposter Phenomenon Connections

The theme *imposter phenomenon connections* explored mechanisms that contributed to imposter phenomenon among psychology majors. Participants revealed that imposter phenomenon primarily occurred by way of internalization of negative thoughts and stereotypes. Subthemes consisted of: 1) lack of confidence, 2) getting lucky, 3) identity specific influence, and 4) STEM or research content. The majority of participants (n = 12) experienced imposter phenomenon as a psychology major. Although many participants discussed imposter phenomenon in a general sense, some participants reported identity specific influences: mental health ability (condition not specified = 5; anxiety = 2; neurodivergence = 1), SES (low income = 2), age (18 – 20 years old = 2), sexual identity (sexual minority = 1), and race/ ethnicity (Asian = 1).

Subtheme 5.1: Lack of Confidence

Lack of confidence was frequently reported as a contributor of imposter phenomenon among participants. Despite making good grades in their psychology classes, many participants lacked confidence that led to self-doubting beliefs. For instance, Ariel revealed that she has a high grade-point average (GPA), but lacks confidence in course content and the ability to repeat a successful outcome.

"If someone were to come up to me and ask me things from a test that I got a really good grade on, I would not have the confidence to be able to answer those things again. Then, it makes me feel like I truly have not learned the information… and so, a lot of times, it feels wrong that I am about to graduate with the bachelor's in psychology. As of now, I have a 4.0 and worked hard for it, but I feel at the same time, I feel like I haven't gotten enough from it."

Subtheme 5.2: Getting Lucky

Similar to lack of confidence, participants often reported difficulty internalizing their successes within psychology classes by attributing their achievements to luck or a fluke, even when they consistently made good grades. Because participants failed to recognize their own abilities, getting lucky was commonly associated with imposter phenomenon. Taylor talked about a time that they achieved a perfect grade in a psychology course, but attributed that achievement to luck.

"I've had issues where I feel like my accomplishments are out of luck rather than, you know, my own competence, and I think it has to do with having some identities that are marginalized. So that is a negative impact in my psychology classes…In one class, I felt like my writing skills were not up to par, you know, my analysis was not up to par, and no matter how hard I tried, I was not going to succeed. And, I ended up getting a perfect grade in that class, and I got 100s on most of the assignments, but every single time I got that grade I was like 'it is a fluke.'"

Subtheme 5.3: Identity Specific Influence

Some participants discussed how their social identities influenced their experiences with the imposter phenomenon. Alex relayed that their anxiety diagnosis often impacted their interactions in their psychology classes and experiences with the imposter phenomenon:

"I definitely have [experienced imposter phenomenon], because I have a lot of anxiety. I've been diagnosed with anxiety, so I usually get anxious about raising my hand in class or even…say I did the work and I have to say it out loud in class, I get very anxious that I did it in a weird way or I did the assignment a different way than everybody else, and then everybody will think of me weirdly."

Subtheme 5.4: STEM or Research Content

Related to content, psychology classes with greater STEM or research focus were frequently associated with the imposter phenomenon among participants. Many participants

reported only having imposter phenomenon in psychology when it came to content in those areas. To illustrate, Sally expressed her experience with imposter phenomenon with both STEM and research:

"When it gets to stuff that is more directly STEM related, like a bio-psych class or a research class, and it gets to the more nitty-gritty stuff, like chemicals or axons and dendrites, imposter syndrome just starts and doesn't stop."

Enhancing and Maintaining Success

The theme *enhancing and maintaining success* investigated strategies to amplify success among psychology majors by identifying how participants remain successful and recognizing what could increase success based on multiple social identities. Participants revealed that reinforcement should occur at various levels to maximize success among psychology majors. Subthemes consisted of: 1) self-motivation, 2) external support systems, 3) institutional-level changes, and 4) increasing institutional-level support. A large number of participants (n = 11) offered suggestions to enhance and maintain success among psychology students. Regarding social groups, participants proposed increasing support around gender (gender minority = 3), race/ ethnicity (people of color = 3), sexual identity (sexual minority = 1), SES (low- income = 1), and mental health (condition not specified = 1).

Subtheme 6.1: Self-Motivation

A good portion of participants explained that self-motivation has helped promote their success as a psychology student. Self-motivation was often discussed in the context of social identities. For example, Lynn indicated that her self-motivation has been enhanced through her race/ ethnicity (Asian American).

"I feel like my identity as an Asian American has contributed to my feelings that I can succeed. Just because, I have like an internalized model minority myth, but that has kind of helped me. It makes me want to be more motivated and able to live up to the expectation that I am smart or ambitious."

Subtheme 6.2: External Support Systems

External support systems, such as family, friends, organizations, and mental health professionals, were also identified as a major contributor in the success of participants. These support systems varied in their familiarity with the discipline of psychology, but they were often described as encouraging and helpful. Cam shared that their therapist has played a crucial role in their success within the field of psychology.

"I guess the way I would put it is, you know, external support or validation helps me succeed. Again, like, I frequently bring up to my therapist, and her job is what I want my job to be, I constantly tell her, you know, I'm very worried that I'm not going to excel in class, that I'm not a good student, that I won't make a good therapist. And, to have somebody who is doing that exact thing, you know, offer support. She's helped me with class stuff or just, it is a simple like, 'No, you will be a good therapist like you are just, you know, you're getting a little worried about it. You are going to be very good.' It really is really helpful for me. I think that that is my main thing is just having the validation of somebody who is in the field, who I see as succeeding in the field, tell me that I am going to succeed in the field. That is what helps me the most."

Subtheme 6.3: Institutional-level changes

Regarding improvements, institutional-level changes were pointed out by several participants to help enhance success among psychology majors. These changes often revolved around representational issues of social groups, and by making adjustments within the department, psychology students may have a greater ability to succeed. Jennifer advocated for more diverse faculty in psychology departments, and expressed that diverse faculty could contribute to success among psychology majors by increasing exposure to varying perspectives.

"I would like to see more professors of color…our psych department has all White professors. I also want to say I have had a bit more female professors compared to male professors. I think it would be nice exposure for someone who has different perspectives to speak out on their experiences and what their research focus has been. It would be good for them to share that wealth onto students."

Whereas Jennifer recommended expanding representation in the department by hiring diverse faculty, Taylor suggested that an LGBTQ training course for faculty could help them to better represent and support their students.

"I think that encouraging more diversified education on LGBTQ issues among psychology professors would definitely do a lot, because I feel like the workshops that are given are very important and impactful. They do great job at covering broad identities, you know, transgender issues, but when it comes to the more nuanced aspects of it…they are kind of left in the dark. And so, I think providing them more nuanced education on it would really help, because a lot of the professors want to work on that, you know, and I feel like it's not out of malice that they, you know, mis-gender me or don't fully use my pronouns. It's just they don't know really what it entails when they see 'they/ them' and 'she/her', you know? And I do lean toward 'they/them', so it is a little disheartening to only be referred to as 'she/her'."

Subtheme 6.4: Increasing Institutional-level Support

Increasing support at the institutional-level was a common suggestion among participants when it came to enhancing success. Many participants recognized that success is influenced by multiple sources and that support at the institutional level can impact both faculty and students. For instance, Rachel realized that psychology professors cannot help each student, even if they wanted to, and support at the institutional level may be beneficial to all involved.

"The professors have so much on their plates…they're just people, you know, they can't always offer support to every individual student. So, I think universities should really work on their mental health services and making them more accessible. I don't think that should always be on the professors, faculty, and staff, you know?"

Chapter 7. Qualitative Discussion

The qualitative component of this study provided insight on the connectedness of perceived academic climate and imposter phenomenon among psychology majors while valuing the culmination of participants' multiple social identities. In other words, semi-structured interview questions were formed using an intersectional approach to highlight interdependent experiences by providing the participants with the opportunity to share their narratives without restricting their experiences to a single facet of their identity (Bowleg, 2008). Reflexive thematic analysis yielded six themes (1) benefits of psychology; 2) barriers of psychology; 3) privileged perspective; 4) stereotypic view of psychology; 5) imposter phenomenon connections; 6) enhancing and maintaining success) that highlighted perceptions of advantage and disadvantage within the discipline of psychology and revealed contributors of imposter phenomenon based on the multiple social identities held by participants. Although the themes of *benefits of psychology* and *barriers of psychology* center around individual, interpersonal, and institutional dynamics, and the themes *stereotypic impact of psychology* and *privileged perspective* revolve around societal and systemic dynamics, it is important to note that all levels are interrelated.

Individual, Interpersonal, and Institutional Influences on Psychology Perceptions

Benefits of Psychology

The benefits of psychology reported by participants highlighted advantageous circumstances encountered as psychology students, at the individual, interpersonal, and institutional levels. Many scholars have advocated to enhance inclusivity and a welcoming environment in higher education (e.g., Hurtado, 2008, Kruse et al., 2018), but results from the current study indicated that psychology departments often meet that criterion. At the institutional level, feelings of belongingness and safety were enhanced due to welcoming and inclusive

psychology departments. Additionally, identity representation within the course content bolstered participants' views of a welcoming environment as they indicated benefitting from representation of identities that have previously been marginalized in other settings (e.g., racial minority, gender minority; sexual minority). Acknowledgement of these identities impacted participants at the individual level by offering a greater understanding of self. As well, positive interpersonal relations with classmates and faculty were also discussed. Because individuals belonging to minority groups tend to gravitate toward social science fields (Settles et al., 2021), participants had the opportunity to connect with classmates through their shared minority identities in their psychology classes. However, participants also reported representation of majority identities (e.g., White; cisgender) within their psychology classes, meaning that majority groups were not excluded with increased visibility of minority groups. Moreover, faculty willingness to provide support both inside and outside of the classroom was highlighted, which coincides with previous work that suggested that students benefit from supportive faculty that provide formal and informal support (Kuh et al., 2001).

Barriers of Psychology

Barriers of psychology revealed disadvantages that participants faced as psychology students at the individual, interpersonal, and institutional levels. Some participants did not have access to psychology classes based on certain social identities, and inaccessibility stemmed from institutional issues (e.g., academic requirements; curricula) enforced at the interpersonal level through faculty. Aligning with previous work (Smith et al., 2019), the burden of receiving an equitable education was put on the students as they had to disclose their physical or mental ability status and go through a series of procedures, including providing documentation to request accommodations. Another institutional barrier maintained by faculty was lectures and

course teachings based on outdated materials. Participants indicated that outdated content was often hurtful, by using terms about identities that were no longer acceptable, and harmful, because they were limited in obtaining knowledge about self. Not only was course content described as outdated, but it also contributed to underrepresentation due to complete neglect or minimal mention of certain social groups. Participants acknowledged that some of their identities were represented within psychology, while other identities lacked representation, but many indicated that their identities could not simply be separated from one another. In other words, all of their identities come together simultaneously to impact their experiences (e.g., Collins, 1990, Crenshaw, 1989, 1991), but identities were often treated independently in their experiences within psychology.

Societal and Systemic Level Influences of Psychology Perceptions

Stereotypic View of Psychology

Findings revealed that societal stereotypes surrounding the discipline of psychology influenced the pursuit of a psychology degree. Psychology was often described by participants as a women's field due to the high volume of women and lack of men present in undergraduate psychology classes. Because societal stereotypes often represent men as individualistic and valuing agency, while women are portrayed as caretakers and valuing communality (Ellemers, 2018), stereotypes may have an impact on the gender disparity in psychology. Moreover, many participants (cisgender women and individuals assigned female-at- birth) claimed they were drawn to psychology because they were socialized to care for others at a young age. Relatedly, participants discussed that men in psychology often face stigmatization by going against their stereotypic gender roles to care for others. Psychology was also depicted as an inferior field, especially in relation to STEM fields. Despite heavy use of the scientific method, psychology is

rarely viewed as a "real science" (American Psychological Association, 2010), which may contribute to inferior perceptions of the discipline. Likewise, perceptions of psychology as an inferior field may be due to the high volume of women in the field and societal stereotypes regarding the underachievement of women (e.g., Broverman et al., 1972; Clance & Imes, 1978). Thus, psychology is perceived as inferior because women are perceived as inferior.

Privileged Perspective

Participants acknowledged that certain social identities may have provided them with privileges, leading to unearned advantages and dominance (McIntosh, 1988), as a psychology student. These privileges were product of societal and systemic level influences. Specifically, many participants in the current study realized privileges due to their middle-high SES. Disparities of higher education preparation and performance have been revealed between low SES and mid-high SES students as those of low SES often work to afford school and they may lack external support if they are first-generation students (e.g., Aronson, 2008; Engle & Tinto, 2008). Privilege can be invisible to those that hold it due to socialization practices that hinder the ability to see it (McIntosh, 1988) and the system is typically built among those that hold power (Helm et al., 1998). However, several participants credited their psychology classes to helping them identify and understand their own privileges based on their social identities.

Imposter Phenomenon within Psychology

Connections

Generally, attributing achievements to luck and lack of confidence are primary components of the imposter phenomenon (e.g., Clance, 1985; Clance & Imes, 1978; Clance & O'Toole, 1988), which was reflected by participants in the current study. Despite making good grades and holding high GPAs, participants lacked confidence and expressed the inability to

internalize their successes within psychology. While imposter phenomenon scholarship tends to center around women (e.g., Clance, 1985; Clance & Imes, 1978; Clance & O'Toole, 1988), the current study allowed participants to reflect on other social identities as well. Many participants discussed how their social identities contributed to the imposter phenomenon. Notably, gender was not explicitly mentioned in the context of imposter phenomenon through participant interviews, but instead, mental health ability and low SES were most reported as contributors. However, there may be an association with gender regarding imposter phenomenon in STEM or research content in psychology. Stereotypes often portray women as lacking science and math capabilities, and this notion has commonly been reinforced through multiple levels of society (Saucerman & Vasquez, 2014). Internalization of these stereotypes may explain why several participants indicated specifically experiencing imposter phenomenon in psychology solely in the context of STEM or research content.

Enhancing and Maintaining Success

The imposter phenomenon occurs when individuals fail to internalize their successes, so recognizing what helps individuals succeed and how to enhance success is crucial in combatting this phenomenon. Within the context of psychology, participants reported self-motivation as a key factor in achieving successful outcomes. However, individuals may overcompensate in their efforts because they lack the confidence in their abilities (Kumar & Jagacinski, 2006). As well, interpersonal external support systems, such as friends, family, mental health professionals, were also identified as critical in maintaining support. The internal and external influences cannot necessarily be separated as external forces can play a role in student outcomes (Peterson & Einarson, 1997). Overall, institutional support appeared to be lacking, and participants advocated for institutional level changes to enhance success among psychology students. Advances at the

institutional level could induce change at other levels due to the interrelated dynamic between levels.

Limitations and Future Directions

There are at least five limitations to this exploratory qualitative study. First, the COVID-19 pandemic began in Spring 2020, and many universities across the United States converted to online instruction during this time. Because interviews for this study took place in Spring 2022, many participants were impacted by the COVID-19 circumstances as university undergraduate students. Participants' perceptions of climate may have been influenced by the amount of physical exposure they had to face-to-face instruction and interactions with faculty and classmates.

Second, the terms "imposter phenomenon" and "imposter syndrome" are commonly used within academic settings (e.g., Parkman, 2016), which may have created a draw to the study by individuals that resonate with those terms. In other words, this may have led to bias in individuals that filled out the online screener to participate. This speculation is supported as most of the interviewed participants indicated experiences of imposter phenomenon within the context of psychology. Likewise, it is possible that cisgender men were less motivated to participate in the study, because imposter phenomenon may not be relevant in their own experiences. While this study provided insight on the relation among multiple social identities, perceived academic climate, and the imposter phenomenon, future researchers should also investigate this relation among individuals that have not experienced imposter phenomenon in psychology. Comparisons between individuals that have not experienced imposter phenomenon and those that have experienced imposter phenomenon may provide greater comprehension through identifying similarities and differences between these two groups.

Third, although the participants in the sample had a wide range of social identities in many areas (e.g., race, sexual orientation, mental health ability, SES), the sample lacked diversity in gender identity. Approximately 70% of participants identified as cisgender women, while roughly 30% held a gender minority identity. Additionally, all the gender minorities that participated in the study identified as feminine presenting. Despite multiple recruitment methods, very few cisgender men completed the online screener for an interview, and those that did, never responded to my attempts to schedule an interview. As mentioned above, imposter phenomenon may be less relevant in the experiences of cisgender men, so they could have been less motivated to participate. Additionally, lack of men in this study may be related to societal stereotypes of gender, in that women value communality (Ellmers, 2018), or cisgender women and gender minorities were more interested in having their voices heard due to historical silencing of those in minority groups. Future research may entail conducting a study that specifically examines the experiences of cisgender men within psychology to obtain a greater understanding.

Fourth, the impact of identity centrality on perceived academic was not thoroughly examined in this study. There was only one question related to identity centrality, whereby participants were not limited in the number of identities they listed. While nine participants expressed benefits of psychology from at least one identity central to their self-concept, eight participants associated barriers of psychology with at least one of their central identities. Findings from this study support the notion that identity centrality can be complicated, as it may have a harmful (Burrow & Ong, 2010) or protective impact (Bourguigon et al., 2006; Tajifel & Turner, 1979). When conducting future qualitative research on identity centrality, investigators should include questions that specifically seek to understand how identity centrality can ameliorate or exacerbate negative perceptions.

Fifth, findings from the qualitative component of this study were broad, and additional research is required for deeper interpretation of the study variables. Overall, intersectionality was effectively incorporated into the study in many ways. Participants were provided the opportunity to discuss their perceptions and experiences as a psychology student without limits on which of their identities they should focus on. Moreover, they could discuss their cumulative multiple identities or individual identities. Although identities are not simply additive, there is value in looking at identities in isolation (Else-Quest & Hyde, 2016) as well as their interdependent impact (Hankvisky & Comier, 2011). Additionally, multiple levels (individual, interpersonal, institutional, societal/systemic) were acknowledged in this study. Ultimately, the dynamic relation between the simultaneous identities held by participants and their interactions at multiple levels in higher education as a psychology student were accounted for. However, given the wide range of identities held by participants, this work serves as a foundational project for future research. This exploratory study provided broad insight on the interrelatedness of perceived academic climate and imposter phenomenon among psychology majors with consideration of their multiple social identities, whereby highlighting specific identities that have higher susceptibility to disadvantage and oppression within the discipline of psychology. To increase understanding, the combination of several identities (e.g., gender, race, SES) should be isolated in future research. This would provide information based on an intersection of identities that goes beyond single axis categorizations and could also offer the ability to delve deeper into specific experiences at that intersection.

Implications for Translational Findings

Despite the limitations, the findings of the current study have three likely implications. First, while this study did not focus on single identities, findings may still shed light on identities

most associated with advantages (cisgender women, sexual minorities, mid-high SES, mental health ability, White) and disadvantages (cisgender men, gender minorities, sexual minorities, low SES, mental health ability, people of color – particularly those that do not identify as Black). These findings show the complexity of identity as many individuals reported advantages and disadvantages in psychology related to the same identity (sexual minority identity and mental health ability being most prevalent). Likewise, individuals hold multiple identities simultaneously. Moving forward, educators should consider the complexity of identity to increase equity in the classroom by recognizing that identity-based power can shift in various circumstances (Case, 2017; Greenwood, 2017). This would require educators to view identity as dynamic, instead of static, to identify and meet the needs of their students in the context of psychology classes in higher education. Similarly, it is crucial that multiple identities are represented simultaneously, so it would be worthwhile for educators to acknowledge various combinations of multiple identities in course content through examples and assessment questions.

Second, many disadvantages noted by participants revolved around representation issues within the discipline of psychology. This representation often stemmed from the institutional level (e.g., course content, curricula), but it was reinforced at the interpersonal level through faculty. While course content mandated by the department or university may be outdated or exclusionary, faculty could provide supplemental resources and readings to increase visibility. Additionally, faculty should remain educated on appropriate terms related to social groups, so they can draw attention to any inaccuracies in course material. This could help reduce emotional harm caused by outdated terms, but it would also provide their students with accurate understanding. While representation issues were discussed in regard to content, lack of

representation was also mentioned in relation to interpersonal encounters with classmates and faculty. Specifically, the discipline was often described by participants as being predominately comprised of White, cisgender women. Increasing the number of diverse psychology faculty could heighten representation of various groups, which may have a snowball-effect on recruiting students from diverse backgrounds to major in psychology.

Third, imposter phenomenon appears to stem from societal stereotypes related to achievement (e.g., Broverman et al., 1972; Clance & Imes, 1978), which can be difficult to combat at the individual, interpersonal, or institutional levels. However, participants expressed that individual self- motivation and interpersonal external support helped with success. Additionally, recommendations to enhance success were rooted in institutional changes. Because there is a multi-directional relationship among these levels, making a change at just one of these levels may help combat imposter phenomenon. For instance, implementing interventions to increase self-motivation, providing students with social support resources, and holding workshops to enhance departmental knowledge of social groups could all enhance student success among psychology majors.

Conclusion

Although exploratory, the qualitative component of this study contributes to existing literature. Power and oppression within the discipline of psychology was assessed with consideration of the interdependent nature of multiple social identities at different levels (individual, interpersonal, institutional, societal/systemic). Additionally, findings revealed specific identities that may be more susceptible to advantage or disadvantage as an undergraduate psychology major. Ultimately, this study revealed greater insight on multiple social identities, perceptions of academic climate, and imposter phenomenon.

Chapter 8. Integrated Mixed-Methods Discussion

A convergent-parallel mixed methods design was utilized to thoroughly understand the interplay among social identities, identity centrality, perceived academic climate, and imposter phenomenon within the discipline of psychology as undergraduate psychology majors. The goal of the quantitative component of the study was to provide information on the direction and magnitude of the variables, and participants (N = 142) completed self-report surveys that provided data for statistical analyses. However, social identity was limited to gender in the quantitative component (cisgender men, cisgender women, gender minorities). In the qualitative component, participants (N = 14) had the ability to expand on their experiences within psychology and imposter phenomenon without limitations on social identity, and interview data was analyzed with reflexive thematic analysis. Comparisons were made between quantitative and qualitative data to identify differences and similarities that occurred when focusing on a single social group (e.g., gender) through the quantitative component and multiple group memberships (e.g., gender, race, sexual orientation, etc.) through the qualitative component. Despite minor inconsistencies, integrated findings indicated convergence between the quantitative and qualitative components.

Although several quantitative studies have examined the relationship of gender and perceived academic climate in STEM undergraduates (e.g., Settles, 2004; Settles et al., 2016), this is the first study to examine the relationship of gender and perceived academic climate in psychology undergraduates. Additionally, this is the first study to investigate the connection among gender, perceived academic climate, and imposter phenomenon among psychology undergraduates. Moreover, the current study explicitly acknowledged gender minorities as a group, as individuals in this group have previously lacked recognition in perceived academic

climate and imposter phenomenon research. Despite attempts to incorporate intersectionality in the quantitative component by recognizing multiple levels of perceived academic climate (individual, interpersonal, institutional) and including covariates in analyses, the quantitative component could not be considered truly intersectional as the focus was on a single-axis of identity (i.e., gender). Since centrality was only measured in the context of gender, the single-axis approach to centrality may have impacted results.

Through the qualitative component of the study, I achieved my goal of expanding the interrelation among multiple social identities, perceived academic climate, and imposter phenomenon by allowing participants to discuss their experiences based on the culmination of their multiple social identities and how those identities interact within the discipline of psychology. The qualitative component implemented intersectionality in several ways, such as allowing participants to discuss multiple identities separately and/or interdependently and accounting for multiple levels (individual, interpersonal, institutional, societal/systemic). However, the qualitative data lacked depth as there were no limits on identity, and it was difficult to account for thorough analyses of each identity or combination of identities. Similarly, the impact of identity centrality on perceived academic climate was difficult to gauge, as participants were not limited on how many identities they listed as central to their identity.

Integrated Findings

Perceived Academic Climate

Results from the quantitative component of this study indicated that gender significantly predicted perceptions of academic climate when comparing cisgender men and cisgender women, with cisgender men holding poorer perceptions of climate. Although zero cisgender men were interviewed in the qualitative component of the study, cisgender women and gender

minorities spoke about the lack of representation and stigmatization of cisgender men in psychology. While lack of representation reportedly occurred at the interpersonal and institutional levels, societal stereotypes may play a role in the stigmatization of cisgender men in this context. Stereotypes attached to gender roles (e.g., women as caretakers, men as individualistic; Ellemers, 2018) may contribute to the lack of men that enter the field as well as negative treatment at the interpersonal level. Integrated findings suggest a power shift within the context of psychology as cisgender men traditionally hold more dominance in society than cisgender women (McIntosh, 1988). Because cisgender men traditionally hold more power in society and social spaces, this change of power dynamic may lead to increased sensitivity due to threats of power.

Based on the quantitative and qualitative results, perceived academic climate among gender minorities appears to be complex. Quantitative results did not significantly predict perceptions of academic climate when comparing gender minorities to cisgender men or cisgender women. Qualitative findings revealed that gender minorities often endured barriers of psychology at the interpersonal and institutional levels, such as lack of representation, misgendering, and encountering outdated course content related to their gender minority identity. However, gender minority participants also reported benefits of psychology, such as a welcoming environment, identity validation, and positive interpersonal interactions. Although these individuals still encounter oppressive circumstances within the discipline, there is a possibility that the benefits of psychology outweigh the barriers. Moreover, individuals from minority groups tend to gravitate toward psychology (Settles et al., 2021), so support from individuals sharing similar identities may act as a buffer against oppressive circumstances.

While gender was the only social identity included in the quantitative component, the qualitative component provided insight into what identities were most often associated with advantages and disadvantages in psychology. Through participant interviews, the identity of "cisgender woman" was most often associated with advantages, but it was never associated with disadvantages. However, mental health ability, low SES, racial minority, and gender minority identities were most associated with disadvantages. Poorer perceptions of climate were often discussed by those that acknowledged disadvantages within psychology based on their social identities. Findings from the quantitative component could be misleading without recognition of the qualitative component because individuals hold multiple social identities at once. For example, a cisgender woman who also comes from a low SES background may perceive academic climate more poorly than a cisgender woman who comes from a high SES background.

Imposter Phenomenon

Integrated findings indicated that the imposter phenomenon revolves around the internalization of societal stereotypes. Although stereotypes can be reinforced at the interpersonal and institutional levels, it appears that internalization of these stereotypes at the individual level is most prominent when it comes to the imposter phenomenon. On the contrary, the Perceived Chilly Climate Scale (PCCS; Pyke & Janz, 2001) assessed perceived academic climate at the individual, interpersonal, and institutional levels, and participants' narratives of perceived academic climate also centered around these levels. This mismatch in levels between perceived academic climate and imposter phenomenon may explain why perceived academic climate did not mediate the relation between gender and imposter phenomenon when examined quantitatively.

Although cisgender women and gender minorities reported higher levels of imposter phenomenon than cisgender men in the quantitative component, gender was not explicitly associated with imposter phenomenon in the qualitative component. Regarding social identities, low SES and mental health ability were named as contributors to the imposter phenomenon. Even through gender was not explicitly discussed in relation to the imposter phenomenon, many participants only experienced imposter phenomenon in psychology when the content was heavily rooted in science, math, or research. Previous work has revealed a link between imposter phenomenon and societal stereotypes surrounding the underachievement of women (e.g., Broverman et al., 1972; Clance & Imes, 1978), and according to the findings of the current study, these stereotypes may be specific to women lacking abilities in science and math (Saucerman & Vasquez, 2014). Thus, societal stereotypes appear to impact imposter phenomenon among cisgender women and gender minorities, but these stereotypes may be unnoticeably internalized by participants as gender was not explicitly expressed as a contributor to imposter phenomenon during interviews.

Identity Centrality

The complicated nature of identity centrality was supported with integrated findings from the current study. Previous research on identity centrality suggests that centrality can exacerbate (Burrow & Ong, 2010) or protect against (Bourguigon et al., 2006; Tajifel & Turner, 1979) negative outcomes. Through the qualitative component of this study, nine participants expressed benefits of psychology from at least one identity central to their self-concept, while eight participants associated barriers of psychology with at least one of their central identities. This revealed that identities cannot simply be separated from one another nor do experiences occur in a vacuum (e.g., Bowleg, 2008), and this appears to occur for identities central to self-concept.

Results from the quantitative component did not support gender centrality as a moderator between gender and perceived academic climate, because centrality should not be assessed using a single axis of identity.

Limitations and Future Directions

While each component of the study had its own limitations, two limitations were identified for the overall mixed-methods study. First, data were collected from cisgender men in the quantitative component but not in the qualitative component. Unfortunately, I was unable to compare qualitative accounts from cisgender men to the quantitative findings. However, cisgender men reported the poorest perceptions of academic climate, and stigmatization of cisgender men was exposed through interviews with cisgender women and gender minorities. Given these findings, it is crucial to obtain a deeper understanding of cisgender men's experiences as a psychology major. In recent years, several articles have suggested that the lack of initiatives to enhance success of cisgender men in higher education may be a leading factor in the decline of cisgender men pursuing degrees in higher education (e.g., Baldasare, 2021; Reeves & Smith, 2021). Because cisgender men have historically held a dominant role in higher education, research and initiatives related to the success of cisgender men have been limited (Baldasare, 2021). Additionally, the cisgender men pursuing a degree are less likely to major in psychology (Willyard, 2011). It is essential that future researchers seek greater understanding of the perceptions and experiences of cisgender men in higher education, specifically as psychology majors.

Second, gender identity was the only identity considered in the quantitative component of this study, while there were no limits on identity in the qualitative component. While the qualitative component adequately expanded on participants' experiences by allowing them to

discuss their identities freely, both cumulatively and separately, results from the overall study were relatively broad in nature. In other words, it was difficult to obtain deep meaning in the interdependence of gender and other social identities of participants with so many different identities being acknowledged at one time. Future researchers should aim to find a middle ground, where they recruit individuals with a similar culmination of identities for both the quantitative and qualitative portions. For example, mental health ability and low SES were commonly reported by participants as impactful in their perceptions of academic climate as well as the imposter phenomenon. Recruiting for individuals of the same gender, mental health ability, and SES could provide deeper understanding while also accounting for intersectionality.

Implications for Translating Findings

Intersectionality refers to the convergence of an individual's multiple social identities and how these identities interact within a society or system to create experiences of power and oppression (e.g., Collins, 1990; Crenshaw, 1989, 1991). Moreover, most individuals belong to both dominant and subordinate groups, and the extent to which they experience power or oppression depends on contextual circumstances (e.g., history, time, physical location; Case, 2017; Greenwood; 2017). In order to fully recognize the interrelated dynamic among multiple social identities, perceived academic climate, and imposter phenomenon among psychology majors, I acknowledged multiple levels that could contribute to power and oppression within the discipline of psychology. Specifically, systemic level (e.g., higher education system), the institutional level (e.g., curricula, course content, psychology department), the interpersonal level (e.g., classmate and faculty encounters), and the individual level (e.g., social identities) were considered. While each of these levels are connected, I have provided implications for translational findings specific to each level.

Systemic Level

Integrated findings revealed that power and oppression can vary based on contextual factors (e.g., Case, 2017; Greenwood, 2017), as cisgender men reported poorer perceptions of academic climate within psychology, and interview data from cisgender women and gender minorities supported the marginalization of cisgender men in the field. The decline in the number of cisgender men pursuing higher education (e.g., Baldasare, 2021; Reeves & Smith, 2021) may play a role in poorer perceptions of climate within psychology. Overall, cisgender men could view the climate of higher education, and not just psychology, differently than cisgender women or gender minorities, which may play a role in the findings from the current study. Because the higher education system historically catered to cisgender men (Helm et al., 1998), fewer support initiatives have been created with this group in mind (Baldasare, 2021). Increasing widescale support initiatives for cisgender men in the higher education system may help with poor perceptions of academic climate among cisgender men in both higher education as a whole and as a psychology major.

Institutional Level

Although findings from the current study suggested that societal stereotypes may play a role in the lack of cisgender men that pursue psychology degrees and imposter phenomenon among cisgender women and gender minorities, stereotypes can be difficult to combat as they are often maintained at the individual, interpersonal, institutional, and systemic levels. However, implementing changes at the institutional level may aid in overcoming these stereotypes within the discipline of psychology. There would be an increase in representation of various groups by diversifying psychology faculty within the department, which could increase students' exposure to successful individuals in the field that share identities like them. This increase in

representation may help recruit cisgender men to major in psychology, but it could also decrease imposter phenomenon among individuals who have imposter feelings associated with social identities. Additionally, departmental initiatives to reframe psychology, particularly in brochures and recruitment material, could tackle these limiting stereotypes directly. Results from the current study implied that cisgender men may avoid pursuing a psychology degree because it does not align with stereotypical gender roles. On the other hand, many cisgender women and gender minorities revealed that their experiences of imposter phenomenon were limited to STEM and research content. In attempts to reframe a psychology department, stereotypes could be challenged by providing examples of cisgender men in helping roles and cisgender women and gender minorities doing research.

Interpersonal Level

Through interviews, cisgender women and gender minorities frequently reported that supportive faculty and positive classmate encounters contributed to positive perceptions of academic climate. Unfortunately, no cisgender men took part in the interview portion of this study, so their narratives were not recorded. However, quantitative findings revealed that cisgender men had the poorest perceptions of academic climate when compared to the other two gender groups, so positive interpersonal interactions could be lacking when looking solely at gender. As faculty in psychology have been commonly described as cisgender women, they fail to share experiences based on gender with students that identify as cisgender men. This may also contribute to the lack of support that cisgender men encounter within their psychology classes. While circumstances at the systemic and institutional levels may contribute to perceptions of academic climate, faculty should be careful not to ignore the needs of students holding dominant social identities while providing support to students that hold subordinate identities. In other

words, support should be distributed in a way that acknowledges all students, particularly since individuals hold multiple social identities that may be subordinate or dominant. Additionally, participants often discussed having positive classmate encounters by connecting through social identities, especially identities that are typically considered subordinate or not discussed in other settings. Although the opportunity to enhance student discussions and engagement may vary based on the class, faculty are encouraged to make time for classmate interactions.

Individual Level

Many individuals that were interviewed in the current study credited their psychology classes to helping them understand how their social identities have afforded them with privileges, or unearned advantages leading to power (McIntosh, 1988). It is common for personal privilege to go unnoticed, and individuals may unintentionally contribute to oppressive circumstances because of their lack of recognition (McIntosh, 1988). While it is my suggestion that educators facilitate conversations of privilege, students will be responsible for reflecting on the way their social identities have provided them with privilege in society and systems. Furthermore, it is essential that educators acknowledge that power and privilege may change based on contextual circumstances (Case, 2017; Greenwood, 2017). At an individual level, highlighting privilege could potentially lead to heightened self-awareness and appreciation, which may lead to more positive perceptions of academic climate or lack of imposter feelings within psychology. Moreover, acknowledgement of privilege could positively influence academic climate for others as increased awareness may prevent unintentional marginalization or silencing of classmates.

Conclusion

This convergent parallel mixed-methods study serves as a starting point for understanding the interrelatedness of social identity, perceived academic climate, and imposter

phenomenon within the discipline of psychology. Despite limitations of the study, novel information was brought to light as this is the first study to examine the relation among these variables. This study intentionally provided visibility for gender minorities, who have commonly been neglected in imposter phenomenon work. Additionally, individuals had the ability to share their experiences without a restriction on identities they could discuss, which helped offer insight into identities that result in power or oppression within psychology. Last, these findings on perceived academic climate inform areas of change for educators at multiple levels, such as increasing initiatives for groups that lack systemic support to enhance potential for success and perceptions of academic climate, reframing psychology departments to combat gender role stereotypes that contribute to the lack of cisgender men as psychology majors and imposter phenomenon surrounding STEM or research content among cisgender women as psychology majors, encouraging interpersonal interactions between students to provide them with a space to learn from and relate to each other about identity-based experiences, and teaching students how to acknowledge their own privilege in order to heighten self-awareness and prevent unintentional marginalization of others.

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APPENDICES

Appendix A: Adapted Version of Perceived Chilly Climate Scale (PCCS; Pyke & Janz, 2000)

Reverse scored items indicated by *

Climate Students Hear About

1. I have never heard that a student that was a woman or gender minority has been sexually harassed by a member of the psychology teaching staff. *
2. I have heard of one or more instances where a member of the psychology teaching staff put a student that was a woman or gender minority down or was rude to them because of their gender.
3. I have heard of one or more instances where a member of the psychology teaching staff has used humour (e.g., sexual/sexist humour, or told sexually suggestive stories, jokes, etc.) to "liven up" the class.
4. I have never heard that a member of the psychology teaching staff has attempted to establish a sexual relationship with a student that was a woman or gender minority. *
5. I have heard of one or more instances when a member of the psychology teaching staff has engaged in inappropriate physical contact toward a student that was a woman or gender minority.
6. I have heard of a member of the psychology teaching staff students that were women or gender minorities as though they have limited intellectual ability.
7. I have heard that some members of the psychology teaching staff have said things that have made students that are women or gender minorities feel uncomfortable.
8. I have never heard that a member of the psychology teaching staff has made crude or offensive sexual remarks to students that were women or gender minorities. *

Sexist Attitudes and Treatment

9. The psychology teaching staff most often use examples from men's lives.
10. In general, I believe that the academic climate at this university is very supportive of students that are women or gender minorities.*
11. A student that is a woman or gender minority must outperform students that are men in order to be taken seriously by the psychology teaching staff.
12. Some teaching staff in the psychology department have "put down" or belittled specific individuals who raise feminist issues or take a feminist position in the classroom.
13. The teaching staff in the psychology department generally seem to associate particular occupations or achievements with one gender (e.g., by saying, "suppose you went to the doctor and he…" or "suppose you spoke with a psychologist and she…").
14. Teaching staff in the psychology department have made sexist remarks (e.g., suggesting that women are too emotional to be scientists, or men are too aggressive to be caretakers of the young or elderly).

Climate Students Experience Personally

15. A member of the psychology teaching staff has treated me as though I have limited intellectual ability.

16. Most psychology teaching staff have supported and encouraged me to obtain my academic goals (e.g., provided emotional support, important information, etc.). *
17. I have received an unfair grade due to differences in opinion between myself and a member of the psychology teaching staff.
18. I have made a comment in a psychology class that has been ignored, and later another student received credit for my idea.
19. A member of the psychology teaching staff has incorrectly seemed to think that I was incompetent when I asked a question.
20. Most psychology teaching staff seem to have enough time to meet with me. *

Classroom Climate/Course Material

21. Topics regarding women and gender minorities (e.g., contributions to the field of psychology) are integrated into the course material in most of the psychology classes I have taken. *
22. Most teaching staff in the psychology department have assigned readings that were written by women and/or gender minorities. *
23. Course material is presented from a broad range of perspectives in psychology classes (i.e., includes many ways of looking at the same material, includes the perspectives of women, gender minorities, etc.). *
24. Most of my psychology textbooks contain some examples of feminist research. *
25. Most psychology teaching staff seem to respond just as well to students that are women or gender minorities as they do to students that are men. *

Safety

26. I have heard that most students that are women or gender minority are not afraid to go to the library alone at night. *
27. I am not afraid to go to the library alone at night. *
28. The campus is a relatively safe place. *

Appendix B: The Clance Imposter Phenomenon Scale (Clance; 1985)

1. I have often succeeded on a test or task even though I was afraid that I would not do well before I undertook the task.
2. I can give the impression that I'm more competent than I really am.
3. I avoid evaluations if possible and have a dread of others evaluating me.
4. When people praise me for something I've accomplished, I'm afraid I won't be able to live up to their expectations of me in the future.
5. I sometimes think I obtained my present position or gained my present success because I happened to be in the right place at the right time or knew the right people.
6. I'm afraid people important to me may find out that I'm not as capable as they think I am.
7. I tend to remember the incidents in which I have not done by my best more than those times I have done my best.
8. I rarely do a project or task as well as I'd like to do it.
9. Sometimes I feel or believe that my success in my life of in my job has been the result of some kind of error.
10. It's hard for me to accept compliments or praise about my intelligence or accomplishments.
11. At times, I feel my success has been due to some kind of luck.
12. I'm disappointed at times in my present accomplishments and think I should have accomplished much more.
13. Sometimes I'm afraid others will discover how much knowledge or ability I really lack.
14. I'm often afraid that I may fail at a new assignment of undertaking even though I generally do well at what I attempt.
15. When I've succeeded at something and received recognition for my accomplishments, I have doubts that I can keep repeating that success.
16. If I received a great deal of praise and recognition for something I've accomplished, I tend to discount the importance of what I've done.
17. I often compare my ability to those around me and think they may be more intelligent than I am.
18. I often worry about not succeeding a with a project or examination, even though others around me have considerable confidence that I will do well.
19. If I'm going to receive a promotion or gain recognition of some kind, I hesitate to tell others until it is an accomplished fact.
20. I feel bad and discouraged if I'm not "the best" or at least "very special" in situations that involve achievement.

Appendix C: Adapted Identity Subscale from the Collective Self-Esteem Scale (CSES; Luhtanen & Crocker, 1992)

Reverse scored items indicated by *

1. Overall, my gender identity has very little to do with how I feel about myself. *
2. My gender identity is an important reflection of who I am.
3. My gender identity is unimportant to my sense of what kind of person I am. *
4. In general, my gender identity is an important part of my self image.

Appendix D: Covid-19 Question

1. What month and year did you start attending your current university?

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Appendix E: Demographic Questionnaire

1. What is your current age?

2. What is your race/ethnicity (check all that apply)?
   Alaskan/Native American
   African American/Black
   Asian
   Caucasian/White
   Hispanic
   Middle Eastern
   Other

3. What is your gender identity?
   Man
   Woman
   Transgender female
   Transgender male
   Nonbinary
   Do not know
   Prefer not to answer
   Other: (fill in blank)

4. What is your sexual orientation?
   Straight
   Lesbian
   Gay
   Bisexual
   Pansexual
   Asexual
   Questioning
   Queer
   Do not know
   Prefer not to answer
   Other: (fill in blank)

5. What is your current class ranking?
   Freshman
   Sophomore
   Junior
   Senior

6. Are you a first-generation student? Yes/ No

Appendix F: Interview Questions for Mixed Methods Component

Demographics

1. What is your current age?
2. What is your race/ethnicity?
3. What is your gender identity?
4. What is your sexual orientation?
5. Are you a first-generation student?
6. What is your current class ranking?
7. How long have you attended your current university (starting month/year)? Which University do you attend?

Interview Questions

We all hold multiple social identities that shape our experiences. Examples of social identities include, race, ethnicity, gender, sexual orientation, religion, socioeconomic status, ability status, and many more. Please take a moment to reflect on your social identities (give participant 2 minutes).

Identity Centrality

1. What are the aspects of your identity that hold more value to you in the way you see yourself?
    a. In other words, when you think of who you are, which of your identities mean the most to you?

Identity and Psychology as a Discipline

2. When you think of all of your social identities coming together to shape your experiences as a psychology student, how do you think your multiple identities have impacted the way you view psychology as a whole (psychological textbooks, classroom environment, coursework, interactions with faculty)?
    a. To rephrase it, how does your overall identity influence your perception of the following:
        i. Psychological textbooks?
        ii. Classroom environment?
        iii. Coursework?
        iv. Interactions with psychology faculty?
3. How do you think your multiple social identities influenced your decision to pursue a degree in psychology?
4. How do you think obtaining a degree in psychology is easier or harder for individuals based on the social identities they hold?

Identity and Psychology Classes at Current University

5. Thinking of your multiple social identities, in what ways have you benefited (for example, being acknowledged in class, accepted by peers/instructors, or ability to relate to course content) in your psychology classes?

    a. On the other hand, what barriers or obstacles (for example, being ignored in class, lack of acceptance from peers/instructors, or inability to relate to course content) have you experienced in your psychology classes related to your multiple social identities?
6. What aspects of your identity appear to be represented the **most** and the **least** within the content (lectures, textbooks, articles, videos, etc.) of your psychology classes?
    a. How does this make you feel?
7. What aspects of your identity appear to be **most** represented and **least** represented on your current university campus as a whole?
    a. How does this make you feel?

Identity and Interpersonal Interactions in Psychology

8. What kind of support (for example, a safe space to express your opinions, provides supplemental support resources, assists you with content) do you receive from your psychology instructors?
    a. Is that enough? Why or why not? Any specific suggestions for improvements with consideration of identity?
9. Describe your experiences with other classmates from your psychology classes.

Identity, Psychology Classes, and Imposter Phenomenon

10. Some individuals doubt their abilities in certain environments, which leads them to feel like they do not belong. These feelings may result in attributing their successes to a fluke or luck (instead of their own abilities). Additionally, they may believe their success cannot be repeated. Have you ever felt all or any of these feelings in your psychology classes? Please elaborate.
11. How do you think your multiple social identities have contributed to your feelings of belongingness within your psychology classes?
    a. Do you ever feel like you do not belong? Why or why not?
12. How do you think your multiple social identities have contributed to your feelings toward your ability to succeed (good grades, content comprehension, retention) in your psychology classes?
    a. Do you ever doubt your abilities? Why or why not?
13. What helps you succeed (good grades, content comprehension, retention) in your psychology classes?
    a. What factors cause you to struggle (poor grades, lack of understanding content) in your psychology classes?

VITA

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