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Imposter Phenomenon Progression and Intersectionality Among Undergraduate Students

**A Thesis Presented to the
Faculty of the Department of Psychology
University of South Carolina Aiken**

**In Partial Fulfillment of the Requirements
for the Degree Master of Science**

Asia Johnson

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Abstract

Previous research indicates that women, students, and racial ethnic minorities experience Imposter Phenomenon (IP) at higher rates when compared to their counterparts. Anxiety and depression have also been linked to IP at seemingly high rates, as the construct overlaps with aspects of both disorders. The amount of time at a collegiate institution has not been examined in relation to IP, with little research emphasizing the effect of a predominately White campus climate on African American undergraduate students. The current study seeks to fill these gaps in the literature, with an additional investigation of the role intersectionality plays. The results of this study indicate that there are no statistically significant findings in relation to race/ethnicity, gender, and their interacting effect on IP symptom endorsement. Examining time at an institution also failed to produce statistically significant results when focusing on IP. Nonetheless, anxiety and depression were both significantly correlated with IP respectively. White females reported the highest level of IP endorsement at the Predominately White Institution (PWI) that was sampled, suggesting that original research conducted by Clance and Imes may still be most relevant. These results indicated that there should be additional research on time and its relationship to IP as well as programs in place for all students to aid in the management of imposterism.

Imposter Phenomenon Progression and Intersectionality Among Undergraduate Students

Imposter Phenomenon (IP), also known as imposterism, refers to the psychological experience that one is not as capable, talented, or competent as others believe them to be. A person experiencing IP has a sense that they are fooling everyone around them into thinking they are something they are not. These individuals typically believe that people will eventually find out they are incompetent. This phenomenon is particularly of importance because these feelings often lead to the development of additional psychological struggles and declining mental health. IP is a common experience among college students. In a society where constantly striving and working is normal, many feel as though they are falling short. African American/Black students are at an increasingly disadvantaged rate for developing IP characteristics due to their intersecting identity. African American students are most likely to report that they experience the highest levels of minority student status stress, with the additional imposter characteristics bound to follow (Parkman, 2016). Current gaps in the literature include a need for more information on the cooccurring psychological phenomenon associated with imposter feelings. There is also a need for the awareness of the development of IP overtime in African American collegiates. Previous studies focused on the western half of the United States, whereas this study's sample will come from the Southeastern region. The current study also aims to investigate the development of IP over time in African American college students. The study will address the gaps in the existing literature by creating a space for faculty, staff, and admirative to recognize the impact of being African American/Black on college campuses, in hopes of increasing mental health accessibility for minority students.

Imposter Phenomenon

IP refers to a feeling of self-doubt that results from failing to recognize one's competence level and falsely attributing one's accomplishments to luck or other external forces. This feeling is a "pervasive psychological experience of perceived intellectual and professional fraudulence" (Mak et al., 2019, p. 1). Individuals who experience Imposter Syndrome tend to believe that they are not as intelligent as those around them seem to think and could potentially impair academic performance and interpersonal relationships (Peteet et al., 2015). Although IP is not currently recognized as a psychiatric disorder, it may be accompanied by feelings of anxiety, depression, low self-esteem, and frustration as a result of the inability to meet self-set standards of achievement (Clance & Imes, 1978; Peteet et al., 2014). Given the substantial literature surrounding this phenomenon, some have called for consideration of IP as an addition to upcoming versions of the Diagnostic and Statistical Manual of Mental Disorders to further identification and treatment of people suffering from this condition (Bravata et. al, 2019).

The term Imposter Phenomenon was coined by Pauline Rose Clance and Suzanne Imes in a 1978 paper titled, *The Imposter Phenomenon in High Achieving Women: Dynamics and Therapeutic Intervention*. Clance and Imes (1978) originally defined IP as an "internal experience of intellectual phoniness" and indicated that it seemed to be most prevalent in high achieving women. It is important to note that the women their original research focused on were White and of the middle socioeconomic class. Early family experiences and societal expectations contribute to the development of IP. Clance and Imes (1978) addressed the role immediate family members play in the development of this syndrome. They keyed in on the two types of individuals that were most likely to develop these feelings. As children, "imposters" typically have a close relative who has been deemed "intelligent", leading children to compare themselves to that individual, or have been directly (or indirectly) told that she is the "sensitive" one in the

family. This influence from the immediate family drives the individual to be an overachiever that is continuously striving to do more, in either respective state.

Clance and Imes (1978) identified four different types of behaviors that tend to maintain the Imposter Phenomenon among women, making it hard to overcome. The first type of behavior revolved around diligent hard work. Individuals with IP fear that their “stupidity will be discovered” (Clance & Imes, 1978, p. 4). This feeling is constantly present, forcing the woman to be extremely hardworking to prevent anyone from discovering this internal feeling. After initially worrying, then working hard and receiving good grades, the approval and temporary feelings of achievement are reinforcing. This then creates a vicious cycle that is continuously repeated and difficult to break. Though good feelings are present, they are short-lived due to the underlying sense of phoniness, which is the center of the second type of behavior: “intellectual flattery”. This behavior is marked by withholding one’s personally held ideas or opinions and instead only providing information that aligns with that of those in power. Clance and Imes (1978) described an example of a student who would purposely provide supporting documents in an assignment that agreed with a professor’s opinions. A third behavior that contributes to the maintenance of IP has to do with using charm to win the approval of those in a position of evaluation. Individuals who participate in this type of behavior typically choose one mentor and study them to find ways of impressing them. Clance and Imes (1978) indicated that some women even went to the extent of becoming sexually involved with their male mentors. This also creates a cycle because in each new setting, the individual will feel the need to identify a mentor and repeat the same process. Negative consequences come with being an opinionated woman, leading Clance and Imes to identify a fourth IP-maintaining behavior: minimizing one’s ambition to be perceived by others as less threatening. According to Mead (1949), successful women tend

to be viewed with hostility, and conversely, women's femininity is called into question with success. By presenting as less achieving, women may be able to glide through life easier, but are minimizing their ambition, creating an inevitable anxiety-provoking situation. Social rejection or "sex-appropriate" (i.e., feminine) behavior is given as the final choice to the individual, adding additional stress to the high achieving woman (Clance & Imes, 1978).

Factors influencing Imposter Phenomenon (IP)

Higher Education

The likelihood that an individual will experience IP is affected by several factors. IP may be particularly prevalent among undergraduate students. Mental health issues have continuously increased within the college student population over time. Many stressors and sudden life changes contribute to this development. Throughout the course of college, there are multiple experiences that contribute to the foundational symptomatology of IP. There is constant evaluation, comparison to peers, and pressure to perform well in order to improve career prospects. IP has been documented as a common occurrence among undergraduate students across several studies (Ferrari & Thompson, 2006; Lee et al., 2020; Peteet et al., 2015; Ross et al., 2001). For example, in a recent study of 278 Austrian and German students, 91.4% of the sample reported IP feelings at least moderately, and 12.6% reported intense imposter feelings (Fassl et al., 2020). Unfortunately, IP can lead to academic difficulties. Lige and colleagues found a correlation found between Imposter Syndrome and GPA scores (2016). However, further research is needed to elucidate whether IP contributes to lower academic performance or whether students who struggle academically are more likely to endorse IP. High expectations imposed on the student by family members or the student themselves can also make experiencing IP more likely (Inman & Mayes, 1999). This could be due to the fact that many college students and their

family members feel disappointed in themselves when they do not do as well as they think they do on an assignment or exam. This also highlights the importance of social support in decreasing the likelihood of Imposter Syndrome experiences.

According to Peteet and colleagues (2015), college students are especially likely to experience IP if they are the first person in their family to pursue a higher education. One of the reasons behind the development of Imposter Syndrome in first-generation college students is a general sense of low self-esteem (Peteet et al., 2015). In some cases, first generation students may feel pressured to hold the weight of their family on their backs by being the first to attend a higher education institution. On the other hand, they may feel less confident than their peers because of the lack of family history success in this area. Additionally, first generation students may have less support from their families compared to students who have had previous generations in their family attend higher education. Family members who did not attend college may struggle to relate to college students due to lack of familiarity with the particulars of the college experience, leading to challenges providing the support that first-generation college students need (Terenzini et al., 1996).

Psychological Characteristics

Psychological characteristics may also affect the development of IP. Sherman James and colleagues (1983) introduced John Henryism, defined as an individual's self-perception that they can meet the demands of their environment through hard work and determination, to account for health disparities between African Americans and other individuals. This construct has been known to interact with IP and increase the risk for poor psychological adjustment. Bernard et al. (2020) linked IP and psychological wellbeing in a sample of Black undergraduate students. Their findings were concrete, in those students who attended PWIs and reported higher levels of John

Henryism were more vulnerable to social anxiety. Researchers highlight that John Henryism, like IP, is activated for African Americans in White-dominated environments creating an added layer of external pressure to succeed. Students who consider themselves “perfectionists” may be predisposed to feelings of imposterism due to the pressure they feel to achieve every goal that they have set for themselves (Henning et al., 1998). Individuals who set high or unrealistic goals for themselves may experience disappointment when those goals are not met, thus leading to feelings of self-doubt and lower self-esteem and eventually the development of IP. In a study by Lige and colleagues (2016), it was found that there is a negative association between self-esteem and experiences of IP; as self-esteem levels decreased, feelings of IP. increased.

Mental health has also been significantly related to IP. Among a diverse sample of undergraduate and graduate students, it was found that psychological distress, perfectionism, and test anxiety were significantly correlated with IP. Concordantly, high levels of general anxiety have also been associated with Imposter Phenomenon. In 1991, Kolligian and Sternberg conducted a study with 50 undergraduate students, all of whom completed multiple self-report questionnaires related to depression, anxiety, and perceived fraudulence. The results were in support of the examiners’ hypotheses in that perceived fraudulence included feelings of depression, social anxiety, and achievement skills. These findings add to the notion that imposterism is a continuous cycle that feeds off multiple psychological factors.

Gender

Gender has also been shown to be a contributing factor of IP, as the initial research focused on IP as a gender issue. Clance and Imes’ original conceptualization of IP focused heavily on the sociological influence of sexism for women. Their original writings contained little mention of the role of intersecting identities including gender, racial/ethnic, and sexual

orientation. Though Clance and Imes' research began with a narrow focus on women (and, perhaps, white women implicitly), more current literature places a focus on other groups of oppressed individuals. In their systematic review of published literature regarding IP, Bravata et al (2019) found that although studies have historically included predominantly female participants, men and women do not significantly differ in their endorsement of IP. These findings are contrary to Clance and Imes' hypotheses from their original 1978 article, in which they expected that IP would be less common among men compared to women. More recently, Fassl et al. (2020) examined the relationship between gender typing, including positive and negative aspects of masculinity and femininity, and imposter feelings. They found that there was a moderately negative relationship between IP and positive masculinity (e.g., "I am rational") but no association with negative masculinity (e.g., "I am harsh"), indicating that adherence to positive values stereotypically associated with masculinity may be somewhat protective against IP. Additionally, imposterism was strongly correlated with negative aspects of femininity (e.g., "I am anxious") but not with positive aspects (e.g., "I am empathic"). It may be that, while both men and women experience IP, women are more likely to identify with the negative aspects of femininity which is a risk factor for IP.

African American Identity

As research on IP has continued to grow in the decades following Clance and Imes' original writings, additional attention has been paid to the experience of IP among ethnic minority individuals, including African Americans. In order to succeed, racial-ethnic minority individuals may feel compelled to strive to blend in with the dominant group, leading them to feel pressured to hide their true selves. This act of concealment influences how spaces are explored and forces minority group members toward assimilation (Edwards, 2019). IP is

associated with increased risk for mental health issues among ethnic minority individuals (Bravata et al., 2019).

Although enrollment in college requires a major adjustment for all college students, the experience may be more intense and disruptive for many ethnic and racial minority students (Wyatt et.al, 2017). On top of the typical changes for college students, racial-ethnic minority students experience isolating and discriminatory environments to which students of the majority group are not exposed. Mental health issues have been found to be more prevalent among ethnic minority groups, due in part to perceived discrimination (Cokely et al., 2011). In a more recent study, Cokely and her colleagues (2013) found that African American college students experience higher minority status stress than students of other minorities. African American students and other racial-ethnic minority groups experience marginalization and discrimination, increasing their risk for mental health problems and the likelihood that they will have difficulty adjusting to predominantly white universities when compared to other ethnic and racial minority group members (Cokely et al., 2013).

Not only do Black/African American college students experience more mental health symptoms than their white counterparts, but they may also experience IP at greater rates. In a sample of Black college students, McClain et al. (2016) examined ethnic identity as it relates to minority status stress and imposter feelings as predictors of mental health. Black students evaluated their campus climate less favorably and endorsed higher levels of race-related stressors, a direct indicator of negative psychological outcomes, compared to the overall sample. Black/African American students who endorsed higher IP reported higher rates of depressive symptomatology. Minority student stress (MSS) was also introduced by these authors, adding that this construct in conjunction with IP can generate an even more draining effect on the

overall mental health of this population (McClain et al., 2016). Austin et al. (2009) indicated consistent findings, in that African American students were acutely aware of the systemic and institutionalized discrimination that makes it more difficult to pursue higher education. Results of their study showed that awareness of minority status affected feelings of imposterism, suggesting that the implications of being a student of color could contribute to the development of IP.

Lige et al. (2017) bring up the theory of “othering”, which can be described as a notion that societal norms and expectations dictate who is made to feel powerful as compared to who is made to feel weak. Due to the African American experience within the United States alone, Black college students have been labeled the “identifiable other” and are constantly referred to as an oppressed group in higher education settings (Lige et al., 2017). This extremely stressful environment contributes to lingering feelings of isolation and diminished self-efficacy that may attribute to further development of intellectual burnout. Additionally, the theory of othering is related to IP due to its high correlation between Black collegegoers navigating academic settings feeling perceived as the “other” and the constant burden of feeling obligated to prove intellectual capabilities to White peers and professors (Baber, 2012).

In addition to undergraduates, IP characteristics are also seen among Black graduate students. Finding that the IP construct was originally normed among White individuals, Stone and colleagues (2018) conducted a qualitative study to create a culturally informed model of the Imposter Phenomenon for Black graduate students. Their findings are consistent with the plethora of evidence supporting the negative impact IP has on African American students’ mental health, well-being, and academic success. The authors emphasize the way Black students have been treated in the past, highlighting that even disciplines that espouse inclusion and

multiculturalism have marginalized Black graduate students. These experiences have led to feelings of estrangement and invisibility for African American postbaccalaureate students. Most recently, Tigranyan et al. (2021) investigated IP among African American graduate students, examining the relationship to students' self-perception, emotion presentation, and academic performance. Their findings were consistent with previous literature in that over 80% of the students reported at least moderate feelings of IP. There was also a significant relationship found between IP and their measures of perfectionistic cognitions, depression, anxiety, and self-compassion. By understanding the rate at which this syndrome is developed, attrition, suicide attempts, and drug usage rates could all be decreased in the Black college students' population.

Intersectionality

Intersectionality is a term originally coined by Kimberly Crenshaw (1989), meaning the additive property of multiple identities that contribute to the access and exposure to events in life. This term has been used as a framework for understanding how aspects of a person's identities combine to create a unique viewpoint that attributes to discrimination as well as privilege. Crenshaw originally discussed this term as it relates to the Black woman's experience. Crenshaw noted that "any analysis that does not take intersectionality into account cannot sufficiently address the particular manner in which Black women are subordinated" (Crenshaw, 1989, p.140). Black women are faced with multiple barriers when placed in the shoes of a student, professor, or administrator in U.S. educational settings (Trotman, 2008). Edwards (2019) also emphasizes how individuals of multiple intersecting identities are placed at an even greater disadvantage and experience oppression at a multiplicative rate.

Bernard et al. (2017) linked IP and mental health by examining the intersecting influences of racial discrimination and gender among African American college students

attending a predominately White institution. Results showed that young African American women reported higher frequencies of racial discrimination, when compared to other demographic groups and were more vulnerable to negative mental health outcomes, particularly at higher levels of IP. Although these findings suggest that IP may interact with gender and discriminatory experiences, research is still very limited regarding intersectionality and IP.

Study Aims

IP refers to the constant burden of living in self-doubt of one's competence, fearing that possible exposure of oneself as a fraud is bound to occur. Though previous literature places a large focus on women, it has been seen across multiple populations with further research. Psychological characteristics, such as anxiety and depression, can greatly affect the risk for developing IP. The first study aim is to examine the association between IP and depression and anxiety. There is a large body of research available that documents IP and its relation to the undergraduate student population. Specifically, being an African American/Black student adds pressure to this vulnerable stage of life and appears to be a risk factor for IP. However, there is no prior literature that has empirically examined intersectionality as it relates to imposterism. Therefore, the second study aim is to explore how gender identity and race/ethnicity (i.e., Black/African American and non-Black/African American) in combination affect IP among undergraduate students at a predominantly white institution. There is also a lack of literature related to the amount of time one spends at an institution of higher education relates to IP. Therefore, the third study aim is to investigate the development of IP over time in Black/African American students. That is, time spent at the institution will be examined as a continuous predictor of self-reported IP. It is expected that the longer Black/African American students remain at the institution, the higher IP they will have.

Methods

Participants

The participants for the study were recruited from a small, public university in the Southeastern region of the United States. Students who are consenting adults (18+) will be invited to participate, making this an inclusion criteria requirement. The study will be advertised through emails sent to the student population, social media posts, and the undergraduate research credit database for Psychology 101 students. Participants will be entered into a raffle for their time in contributing to the 30-minute study. The raffle will be an option for those who are not receiving course credit and will be for two \$30 Amazon gift cards. After the first drawing, the winner will be removed and ineligible to win during the second one. Results of a power analysis indicated that, with a power level set to 0.8 and a significance level of .05, 124 participants are required to detect a medium effect size in a two-way ANOVA with two dichotomous factors (i.e., gender and race).

Measures

Demographics Measure

Participants will be asked to give background information in relation to their demographics (Appendix A). After consenting to participate and provide information voluntarily, participants were asked for their age, gender, ethnicity, current year of college, country of origin, and the highest level of education completed. The participants were also asked to specify which state they resided in, if currently living in the United States. Community type (i.e., large city, rural area, etc.) and current household size were also recorded.

Imposter Phenomenon

The Clance Imposter Phenomenon Scale (CIPS, Appendix B) was used to measure imposter characteristic development (Clance and Imes, 1985). This scale was originally created to help individuals determine whether they have IP characteristics and if so, to what extent they are suffering. The inventory consists of 20 Likert scale items. The participants indicated their level of agreement with statements on a 5-point scale ranging from “not at all true” to “very true”. An example item is, “I often worry about not succeeding with a project or on an examination, even though others around me have considerable confidence that I will do well” (see Appendix A). The higher the score, the more frequently and seriously Imposter Phenomenon interferes in a person’s life (Clance and Imes, 1985). The CIPS has a reported Cronbach’s alpha of .92 for the total score (French, Ullrich-French, & Follman, 2008).

Psychological Well-Being

The Generalized Anxiety Disorder-7 (GAD-7, Appendix C) is a commonly used measure of general anxiety symptoms that can be used across various settings and populations (Spitzer et al., 2006). There are seven items that self-administered and use the DSM-5 criteria for Generalized Anxiety Disorder (GAD). Responders are asked to rate the frequency of anxiety symptoms in the past two weeks on a Likert scale ranging from 0-3 (0 = not at all, 1 = several days, 2 = more than half the days, 3 = nearly every day). (See Appendix B) Severity is determined by examining the total score, with higher scores being associated with greater severity. The GAD-7 has proved to be a valid and reliable measure in measuring anxiety symptoms, with excellent internal consistency and convergent validity (Johnson et al., 2019).

The Patient Health Questionnaire-8 (PHQ-8, Appendix D) is an eight-item depression scale (Kroenke & Spitzer, 2002). The PHQ-8 consists of eight of the nine criteria on which depressive disorders are based. The ninth criteria in the DSM assesses suicidal and self-injurious

thoughts, omitted from this measure due. The PHQ-8 asks respondents to refer back to the past two weeks and answer how frequently they had experienced depressive symptoms. The responses include 0 (0 to 1 day in the past two weeks, or “not at all”), 1 (2 to 6 days, or “several days”), 2 (7 to 11 days, or “more than half the days,” and 3 (12 to 14 days, or “nearly every day”). (See Appendix C) The scores from each item are then summed and produce a total score between 0 and 24 points. Total scores of 0-4 represent no significant depressive symptoms, 5-9 represent mild depressive symptoms, 10-14 moderate symptoms, 15-19 moderately severe symptoms, and 20-24 severe symptoms. The PHQ-8 has acceptable psychometric properties, with a sensitivity of 77% and a specificity of 62% (Smith et al., 2010).

Procedure

The survey will be administered using Qualtrics (<https://www.qualtrics.com>). Participants will be provided with a web-secured survey link through the Qualtrics software that led them to an anonymous questionnaire. All participants indicated their consent before beginning the survey and understood that participation was voluntary. To begin, all participants will be given a demographic questionnaire and then instructed to complete the CIPS, GAD-7, and PHQ-8. The questionnaire will take approximately 30 minutes to complete and research credit will be given to students in introduction to psychology courses.

Results

One hundred and thirty-six participants successfully completed the Qualtrics survey. Six participants were eliminated due to not completing the survey. See Table 1 for demographic characteristics of the sample. Of the 136, 37 (27.2%) were male, 95 (69.9%) were female, 3 (2.2%) identified as non-binary, and one person preferred not to answer. The average age of the participants was 19.77 years ($SD = 3.255$). Seventy-six (55.4%) participants identified as White,

47 (33.8%) as Black/African American, 18 (12.5%) as Hispanic or Latino/x, 2 (1.5%) as Asian/Pacific Islander, 1 (0.7%) as Native American, and 3 (2.2%) as another race/ethnicity that was not listed. None of the participants declined to report their ethnic identity. Eighty-one (59.6%) participants reported that they were in their first year of college, 33 (24.3%) reported that they were in their second year, 9 (6.6%) reported that they were in their third, 3 (2.2%) reported that they were in their fourth, 7 (5.1%) reported that they were in their fifth year or more. When asked about socioeconomic status, there was a normal distribution with the majority of the participants reporting that they identify as middle class ($M = 5.43$, $SD = 1.663$).

Aim 1 Results

A Pearson's correlation matrix was run to assess the relationship among IP, anxiety, and depression (Table 2). There was a statistically significant, large, positive correlation between IP and anxiety ($r(134) = .688$, $p < .001$). There was also a large positive correlation between IP and depression ($r(134) = .653$, $p < .001$). Depression and anxiety were also strongly correlated ($r(136) = .792$, $p < .001$).

Post hoc analyses were run after the correlation matrix to better understand the link between depression, anxiety, and IP. A partial correlation was run to determine the relationship between IP and depression whilst controlling for anxiety. There was a high, positive partial correlation between IP and depression whilst controlling for anxiety ($r = .653$). When controlling for depression, it was also found that there was a high, positive partial correlation between IP and anxiety ($r = .688$). A multiple regression was run to predict IP from depression and anxiety. These variables statistically significantly predicted IP, $F(1,132) = 97.928$, $p < .001$, $R^2 = .426$). Both variables added statistically significantly to the prediction, $p < .05$.

Aim 2 Results

A two-way ANOVA was conducted to examine the effects of gender and race/ethnicity on IP endorsement (Table 3). Participants who identified their gender as non-binary or who preferred not to answer were not included in analyses. Race/ethnicity was coded dichotomously as African American or non-African American. First, IP was compared across four groups: African American females ($n = 38$), African American males ($n = 6$), non-African American females ($n = 56$), and non-African American males ($n = 30$). The highest mean IP was observed among non-African American females ($M = 3.359$, $SD = 0.721$), followed by Black/African American males ($M = 3.075$, $SD = 0.642$), non-African American males ($M = 2.958$, $SD = 0.723$), and Black/African American females ($M = 2.885$, $SD = 0.721$). The interaction effect between gender and African American race/ethnicity identity on IP was not statistically significant, $F(1,126) = 3.075 (.642)$, $2.885 (.721)$. Neither the main effect of gender ($p = .557$) nor race/ethnicity ($p = .320$) on IP was statistically significant.

Aim 3 Results

An additive moderation model using Hayes PROCESS macro for SPSS (Model 2) was estimated to determine if gender and race/ethnicity moderated the association between time at an institution and IP. Time at institution was operationalized as a categorical variable with three levels – first year, second year, or third year or beyond. The overall model was significant $F(1,126) = 2.853$, $p = .018$ and the interaction between year group and gender was almost statistically significant ($B = -.401$, $p = .054$), as was the main effect of year group on IP ($B = .728$, $p = .051$). There was a statistically significant main effect of gender on IP ($B = .895$, $p = .01$). See Figure E1.

Discussion

IP has been an ongoing disturbance in the livelihood of undergraduate students, with an additional emphasis on racial/ethnic minorities. In the past, women have also been more likely to report feelings of imposterism, when compared to other groups divided by gender identity. More recently, IP has been linked to majority group members as well and has been experienced by individuals in high-ranking positions across various settings. Anxiety and depression have also been highly correlated with IP, indicating that there may be overlapping factors and symptom expression that lie within them. The current study aimed to examine the association between IP and depression and anxiety, to explore how gender identity and race/ethnicity (i.e., Black/African American and non-Black/African American) in combination affect IP among undergraduate students at a predominantly white institution, and to investigate the development of IP over time in Black/African American students.

Regarding Aim 1, Imposter Phenomenon was found to be strongly correlated with both anxiety and depression. When further examining the relationship between IP, depression, and anxiety, a regression analysis indicated that each construct is uniquely associated when controlling for the other. Given that IP is conceptually similar to anxiety and depression (Kolligian & Sternberg, 1991), it was expected that these constructs would be moderately correlated. However, results of this study indicate that IP may be difficult to distinguish from internalizing mental health symptoms. There has been some previous support for the idea that IP is indistinct from anxiety, with some arguing that it may be another rendition of an anxiety disorder (Kolligian & Sternberg, 1991). This previously stated finding contributes to IP remaining an unclassified construct that has yet to be added to the Diagnostic and Statistical Manual. It also makes it hard to operationally define IP and tease it apart from other anxiety related disorders.

When examining the impact that gender and race/ethnicity had on IP endorsement for Aim 2, there were no statistically significant results. That is, contrary to hypotheses, gender and race/ethnicity did not interact to predict IP and neither variable had a significant main effect on IP. However, examination of the mean IP across the four groups yielded interesting findings. The data obtained suggested that White females reported higher IP symptomatology than any other group examined. This aligns with original research from Clance and Imes (1978) that solely focused on the way that White women were being affected by this psychological construct. The findings of the current study suggest that non-African American females, who in this sample were predominantly White, indeed are highly affected by IP. The fact that IP was not higher among African Americans compared to non-African Americans as hypothesized may also be due to campus efforts to increase diversity and inclusion, causing them to feel less than or left out of the picture.

Time at the institution in terms of years enrolled was also examined as a predictor of IP, with the overall model yielding significant results. Gender had a significant main effect on IP, with IP higher among females compared to males. This is consistent with Clance and Imes' (1978) original claims that females are more likely to develop IP. The interaction between gender and time at institution approached significance in predicting IP. The longer females stayed at the institution; the less IP symptoms were reported. With males, the longer they stayed at the institution, the more IP endorsement was reported. With a higher sample size, this interaction may have reached statistical significance. This could be due to the likelihood that female students are more likely to seek mentorships when compared to their male counterparts. This may also be due to the fact that the psychology department has more female faculty members, when compared to other departments within the STEM discipline, leading to male

students feeling less compelled to reach out for mentorship. Male student confidence level may also be declining over time, as they find themselves in classrooms that are highly populated with female students, leading to feelings of underrepresentation.

Strengths and Limitations

My ability to detect an interaction between race and ethnicity in predicting IP might have been impeded by the fact that African Americans and males made up a minority of the sample, and the sample of African American males was particularly small. This may have been because participants were recruited from a predominantly White university and were mostly psychology majors, which is a female-dominated department at the institution where the research was conducted. There were also mainly first-year students that completed the study, making it more difficult to examine the role time played in IP endorsement. The way time at institution was operationalized was also a limitation because it was not defined as a continuous variable (number of semesters) but as a categorical variable with each individual residing in one of three groups (first year, second year, or third year and beyond). It would have also been interesting to investigate the participants' majors to determine whether that played a role in students' IP.

Future Directions and Conclusions

Results of this study emphasize the role that gender plays when predicting IP and suggests that IP may change differently over time for male versus female students. This supports the notion that more research should be done in the future that explores gender norms and expectations in relation to IP and the development of IP over time. Research in this area should continue with larger sample sizes to explore the preliminary finding that IP differs in interesting ways across groups that differ by race and gender. For instance, research exploring the difference in IP between African American and non-African American females may lead to an

understanding of protective factors for African American women that lead to sense of confidence in their abilities. The results also call into question if there is an actual difference between IP and anxiety, as well as if there is a difference between IP and depression. The high correlations that were revealed indicate that IP may be another internalizing symptom, but there is also room for more exploration needed to discover if there is a longitudinal relationship between IP and mental health.

The finding that IP was not generally higher among African American versus non-African American students was unexpected, but may relate to programmatic efforts in place at the institution where this research was conducted. Positively, The University of South Carolina – Aiken aims to provide a welcoming and openly supportive atmosphere. The university has a Department of Diversity Initiatives, whose mission revolves around “fostering institutional equity, diversion, inclusion, and belonging by cultivating opportunities” (*Diversity Initiatives*, 2022). The department also has implemented a safe space, labeled “The Intersection” within the Division of Student Affairs. The college’s website exclaims that “The Intersection serves as a comfortable hang-out spot for undergraduate and graduate students, meeting space, and program venue. Programs within this space will include but aren’t limited to heritage month programming, movie screenings, and culturally specific meals”. This space is open to all students but was primarily designed to support communities of color, the LGBTQIA+ community, students with (dis)abilities, and other traditionally marginalized communities (*Diversity Initiatives*, 2022). With new additions being made to foster diversity and belongingness across campus, this continually adds to the way African American students are made comfortable. It would be interesting to examine intersecting identities and IP at a Predominately White Institution (PWI) that has failed to incorporate more inclusive practices and policies. Further

research is needed to examine the way programs and policies aimed at increasing diversity, equity, and inclusivity affect IP and undergraduate students. With more empirical information on programs that are being implemented on predominantly White campuses, there can be improvements made for all students of color across the world.

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Table 1*Demographic Characteristics of the Sample (N = 136)*

	<i>M (SD) or N (%)</i>
Age	19.77 (3.225)
Year in College	
First	81 (59.6%)
Second	33 (24.3%)
Third or higher	19 (13.9%)
Socioeconomic Status	5.43 (1.663)
Gender	
Male	37 (27.2%)
Female	95 (69.9%)
Non-binary	3 (2.2%)
Ethnicity	
White	76 (55.4%)
Black/African American	47(33.8%)
Hispanic/Latino/x	18(12.5%)
Asian/Pacific Islander	2(1.5%)
Native American	1(0.7%)

Table 2*Aim 1 Results: Correlations Among IP, Anxiety (GAD-7), and Depression (PHQ-8)*

		IP	GAD-7	PHQ-8
IP	Pearson Correlation	1	.653**	.688**
	Sig. (2-tailed)		<.001	<.001
	N	134	134	134
GAD-7	Pearson Correlation	.653**	1	.792**
	Sig. (2-tailed)	<.001		<.001
	N	134	136	136
PHQ-8	Pearson Correlation	.688**	.792**	1
	Sig. (2-tailed)	<.001	<.001	
	N	134	136	136

Note. ** Correlation is significant at the 0.01 level (2-tailed).

Table 3*Aim 2 Results: Two-way ANOVA*

Gender	Race	<i>M</i>	<i>SD</i>	<i>N</i>
Male	Not Black or African American	2.958	.723	30
	Black or African American	3.075	.643	6
Female	Not Black or African American	3.359	.721	56
	Black or African American	2.885	.739	38

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Corrected Model	6.086	3	2.029	3.870	0.11
Intercept	617.324	1	617.324	1177.541	<.001
Gender	.182	1	.182	.347	.557
Race/ethnicity	.522	1	.522	.996	.320
Gender*Race/ethnicity	1.428	1	1.428	2.724	.101

Table 4*Aim 3 Results: Additive Moderation Model Predicting Imposter Phenomenon*

Model Summary	<i>R</i>	<i>R</i> ²	<i>MSE</i>	<i>F</i>	<i>df1</i>	<i>df2</i>	<i>p</i>
	.325	.106	.527	2.853	5	121	0.018

Effect	Estimate (B)	<i>SE</i>	<i>t</i>	<i>p</i>	95% CI	
					UL	LL
Intercept	1.658					
Year group	.728	.369	1.973	.051	-.003	1.45
Gender	.895	.356	2.515	.013	.190	1.60
Gender x year group	-.401	.210	-1.949	.054	-.823	.00
Race/ethnicity	-.380	.331	-1.149	.253	-1.036	.27
Race ethnicity x year group	-.028	.191	-.147	.884	-.406	.35

Appendix A

Demographic Questionnaire

1. How old are you?
2. What is your gender?
3. What year of college are you currently in?
4. If in the United States, in which state do you currently reside?
5. What is your ethnicity?
6. Think of this ladder as representing where people stand in your country.



At the top of the ladder are the people who are the best off - those who have the most money, the most education, and the most respected jobs. At the bottom are the people who are the worst off - who have the least money, least education, and the least respected

jobs or no job. The higher up you are on this ladder, the closer you are to the people at the very top; the lower you are, the closer you are to the people at the very bottom.

Where would you place yourself on this ladder?

7. What is the highest level of education you have completed?
8. What type of community do you live in?
9. Including yourself, how many people currently live in your household?
10. Which of the following most accurately describes your current living situation?

Appendix B

Clance IP Scale

For each question, please circle the number that best indicates how true the statement is of you. It is best to give the first response that enters your mind rather than dwelling on each statement and thinking about it over and over.

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.

1 (not at all true) 2 (rarely) 3 (sometimes) 4 (often) 5 (very true)

2. I can give the impression that I'm more competent than I really am.

1 (not at all true) 2 (rarely) 3 (sometimes) 4 (often) 5 (very true)

3. I avoid evaluations if possible and have a dread of others evaluating me.

1 (not at all true) 2 (rarely) 3 (sometimes) 4 (often) 5 (very true)

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.

1 (not at all true) 2 (rarely) 3 (sometimes) 4 (often) 5 (very true)

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.

1 (not at all true) 2 (rarely) 3 (sometimes) 4 (often) 5 (very true)

6. I'm afraid people important to me may find out that I'm not as capable as they think I am.

1 (not at all true) 2 (rarely) 3 (sometimes) 4 (often) 5 (very true)

7. I tend to remember the incidents in which I have not done my best more than those times I have done my best.

1 (not at all true) 2 (rarely) 3 (sometimes) 4 (often) 5 (very true)

8. I rarely do a project or task as well as I'd like to do it.

1 (not at all true) 2 (rarely) 3 (sometimes) 4 (often) 5 (very true)

9. Sometimes I feel or believe that my success in my life or in my job has been the result of some kind of error.

1 (not at all true) 2 (rarely) 3 (sometimes) 4 (often) 5 (very true)

10. It's hard for me to accept compliments or praise about my intelligence or accomplishments.

1 (not at all true) 2 (rarely) 3 (sometimes) 4 (often) 5 (very true)

Note. From *The Impostor Phenomenon: When Success Makes You Feel Like A Fake* (pp. 20-22), by P.R. Clance, 1985, Toronto: Bantam Books. Copyright 1985 by Pauline Rose Clance, Ph.D., ABPP. Reprinted by permission. Do not reproduce without permission from Pauline Rose Clance, drpaulinerose@comcast.net, www.paulineroseclance.com.

11. At times, I feel my success has been due to some kind of luck.

1 (not at all true) 2 (rarely) 3 (sometimes) 4 (often) 5 (very true)

12. I'm disappointed at times in my present accomplishments and think I should have accomplished much more.

1 (not at all true) 2 (rarely) 3 (sometimes) 4 (often) 5 (very true)

13. Sometimes I'm afraid others will discover how much knowledge or ability I really lack.

1 (not at all true) 2 (rarely) 3 (sometimes) 4 (often) 5 (very true)

14. I'm often afraid that I may fail at a new assignment or undertaking even though I generally do well at what I attempt.

1 (not at all true) 2 (rarely) 3 (sometimes) 4 (often) 5 (very true)

15. When I've succeeded at something and received recognition for my accomplishments, I have doubts that I can keep repeating that success.

1 (not at all true) 2 (rarely) 3 (sometimes) 4 (often) 5 (very true)

16. If I receive a great deal of praise and recognition for something I've accomplished, I tend to discount the importance of what I've done.

1 (not at all true) 2 (rarely) 3 (sometimes) 4 (often) 5 (very true)

17. I often compare my ability to those around me and think they may be more intelligent than I am.

1 (not at all true) 2 (rarely) 3 (sometimes) 4 (often) 5 (very true)

18. I often worry about not succeeding with a project or examination, even though others around me have considerable confidence that I will do well.

1 (not at all true) 2 (rarely) 3 (sometimes) 4 (often) 5 (very true)

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.

1 (not at all true) 2 (rarely) 3 (sometimes) 4 (often) 5 (very true)

20. I feel bad and discouraged if I'm not "the best" or at least "very special" in situations that involve achievement.

1 (not at all true) 2 (rarely) 3 (sometimes) 4 (often) 5 (very true)

Note. From *The Impostor Phenomenon: When Success Makes You Feel Like A Fake* (pp. 20-22), by P.R. Clance, 1985, Toronto: Bantam Books. Copyright 1985 by Pauline Rose Clance, Ph.D., ABPP. Reprinted by permission. Do not reproduce without permission from Pauline Rose Clance, drpaulinerose@comcast.net, www.paulineroseclance.com.

Appendix C

Generalized Anxiety Disorder Screener (GAD-7)

Over the <i>last 2 weeks</i> , how often have you been bothered by the following problems?	Not at all	Several Days	More than half the days	Nearly every day
1. Feeling nervous, anxious or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it is hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritated	0	1	2	3
7. Feeling afraid as if something awful might happen	0	1	2	3
	Add columns			
	Total Score			
8. If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?	Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult

Appendix D

Patient Health Questionnaire (PHQ-8)

Over the *past 2 weeks*, how often have you been bothered by any of the following problems?

	Not at All	Several Days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3

Appendix E

Figure E1

