A Test of a Cognitive Appraisal Model of the Influence of Perceptions of Seriousness and Self-Compassion as Influencing Impostor Experiences

Jessica Renee Bowen Pereira and Eric D. Deemer*
Department of Educational Studies, Purdue University

ABSTRACT. Impostor phenomenon, the feeling of intellectual fraudulence, is commonly experienced by college students and may be predicated in environmental variables. If students feel that others do not take them seriously, they may feel like impostors. Self-compassion is theorized to protect against the effects of impostor phenomenon and negative environmental phenomena. Using cognitive appraisal theory, this study framed the environmental stress of not being taken seriously as possibly resulting in a negative primary appraisal. It was hypothesized that self-compassion and perceptions of seriousness would negatively predict impostor phenomenon. The authors also predicted that self-compassion would moderate the relationship between perceptions of seriousness and impostor phenomenon. Results of a hierarchical regression analysis revealed that increased levels of self-compassion were found to be related to fewer reported impostor experiences, ΔF(2, 194) = 76.23, β = -.66, p < .001, ΔR² = .31, R² = .44, f² = .59, but perceptions of seriousness negatively predicted impostor phenomenon, F(1, 195) = 23.56, β = -.32, p < .001, R² = .11, f² = .12. Self-compassion was not found to moderate the relationship between perceptions of seriousness and impostor phenomenon, ΔF(3, 193) = 50.62, β = .11, p = .75, ΔR² = .00, R² = .44, f² = .00. Self-compassion is likely a buffer against the effects of IP, but the connections between perceptions of college campuses and impostor features requires further exploration. Further research regarding how self-compassion and perceptions of seriousness influence impostor features in university students is needed. Limitations, implications, and future directions are offered.

Keywords: impostor phenomenon, campus climate, self-compassion cognitive appraisal

Impostor phenomenon (also known as imposter syndrome1) is a term used to describe an intrapsychic pattern of perceived inadequacy wherein one struggles to internalize and accept the accomplishments and achievements they have earned and otherwise attribute their success to luck (Clance & Imes, 1978). When experiencing an impostor moment, people often feel a sense of intellectual fraudulence and worry that they may be “exposed” as being unsuccessful, incapable, and undeserving of the achievements they have earned (Clance & Imes, 1978; Patzak et al., 2017). Impostor phenomenon can be experienced in all domains of life. The literature has documented impostor phenomenon in the workplace, in parenting, and among friend groups (Bravata et al., 2020). However, the present literature on impostor phenomenon is most extensive in discussing the impostor experiences of students in academia. The seminal research on impostor phenomenon focuses on impostor experiences of undergraduate college women and includes some experiences of graduate school and professional women (Clance & Imes, 1978). Since then, the research on impostor phenomenon in college students has expanded to explore the phenomenon.

---

1Impostor phenomenon and impostor syndrome refer to the same experience and are commonly used interchangeably in the literature. This article will use the term impostor phenomenon to avoid the disparaging and disempowering context that comes with the use of the term “syndrome.” Impostor syndrome is commonly employed in nonpeer-reviewed lay literature on impostor syndrome (see Bravata et al., 2019). Additionally, the term impostor is also spelled as “imposter.” According to linguists, “impostor” is the proper spelling, which is why this spelling is used throughout this article.
There are many aspects that comprise campus climate, one of which is perceptions of seriousness. Perceptions of seriousness, as operationalized in Reid and Radhakrishnan (2003) describes the feelings that students may have when they perceive that students, staff, and faculty do not take them seriously as students. This aspect of campus climate was selected in this study as it appears to be theoretically related to impostor phenomenon. Specifically, if people perceive that others in their academic environment do not take them seriously as students, this could result in them internalizing these perceptions. This could aid in the development and maintenance of impostor phenomenon, wherein they feel they are not “real” scholars and that they do not belong on campus.

Self-Compassion

Self-compassion involves directing compassionate feelings and behaviors instead of harsh criticism to oneself, particularly in times of perceived inadequacy, failure, or distress (Neff, 2003). Self-compassionate individuals view their experiences to occur as part of the larger human experience instead of isolated incidents; hold painful thoughts in mindful awareness instead of over-identifying with them; and treat themselves with kindness instead of judgment (Neff, 2003). Research has indicated that self-compassion helps people manage burnout (Babenko et al., 2018), motivation and achievement goals (Breines & Chen, 2012), perfectionism

For instance, students of color at a predominantly White campus may find the lack of diversity and inclusion efforts on campus to be exclusionary and may perceive the campus to be chilly (Reid & Radhakrishnan, 2003). The perceived lack of support may influence their ability to develop a sense of belonging and connect with others with similar racial identities as them, which can lead to feelings of isolation (Graham & McClain, 2019; Puckett & Lewis, 2022). Alternatively, sexist microaggressions about women’s academic abilities from staff and faculty could make women feel marginalized (Bernard et al., 2017; Hill, 2020). They may internalize these messages to be truths about their academic abilities, which may influence retention and their choice of career path.

Poor perceptions of campus climate can be related to a poor sense of belonging (Wells & Horn, 2015) and poor identity development (Jensen & Deemer, 2019), both of which are associated with impostor phenomenon (Chakraverty et al., 2022; Graham & McClain, 2019). It could be that being in an environment that one perceives to be threatening could lead to negative outcomes (e.g., poor identity development and sense of belonging), which may mediate or moderate the increased presence of impostor phenomenon.

There are many aspects that comprise campus climate, one of which is perceptions of seriousness. Perceptions of seriousness, as operationalized in Reid and Radhakrishnan (2003) describes the feelings that students may have when they perceive that students, staff, and faculty do not take them seriously as students. This aspect of campus climate was selected in this study as it appears to be theoretically related to impostor phenomenon. Specifically, if people perceive that others in their academic environment do not take them seriously as students, this could result in them internalizing these perceptions. This could aid in the development and maintenance of impostor phenomenon, wherein they feel they are not “real” scholars and that they do not belong on campus.

Self-Compassion

Self-compassion involves directing compassionate feelings and behaviors instead of harsh criticism to oneself, particularly in times of perceived inadequacy, failure, or distress (Neff, 2003). Self-compassionate individuals view their experiences to occur as part of the larger human experience instead of isolated incidents; hold painful thoughts in mindful awareness instead of over-identifying with them; and treat themselves with kindness instead of judgment (Neff, 2003). Research has indicated that self-compassion helps people manage burnout (Babenko et al., 2018), motivation and achievement goals (Breines & Chen, 2012), perfectionism

For instance, students of color at a predominantly White campus may find the lack of diversity and inclusion efforts on campus to be exclusionary and may perceive the campus to be chilly (Reid & Radhakrishnan, 2003). The perceived lack of support may influence their ability to develop a sense of belonging and connect with others with similar racial identities as them, which can lead to feelings of isolation (Graham & McClain, 2019; Puckett & Lewis, 2022). Alternatively, sexist microaggressions about women’s academic abilities from staff and faculty could make women feel marginalized (Bernard et al., 2017; Hill, 2020). They may internalize these messages to be truths about their academic abilities, which may influence retention and their choice of career path.

Poor perceptions of campus climate can be related to a poor sense of belonging (Wells & Horn, 2015) and poor identity development (Jensen & Deemer, 2019), both of which are associated with impostor phenomenon (Chakraverty et al., 2022; Graham & McClain, 2019). It could be that being in an environment that one perceives to be threatening could lead to negative outcomes (e.g., poor identity development and sense of belonging), which may mediate or moderate the increased presence of impostor phenomenon.

There are many aspects that comprise campus climate, one of which is perceptions of seriousness. Perceptions of seriousness, as operationalized in Reid and Radhakrishnan (2003) describes the feelings that students may have when they perceive that students, staff, and faculty do not take them seriously as students. This aspect of campus climate was selected in this study as it appears to be theoretically related to impostor phenomenon. Specifically, if people perceive that others in their academic environment do not take them seriously as students, this could result in them internalizing these perceptions. This could aid in the development and maintenance of impostor phenomenon, wherein they feel they are not “real” scholars and that they do not belong on campus.
and depression (Abdollahi et al., 2020), and poor life satisfaction (Yang et al., 2016), all of which are associated with impostor phenomenon as symptoms, predispositions, and outcomes (Chrisman et al., 1995; Cokley et al., 2017; Henning et al., 1998; Vaughn et al., 2020; Villwock et al., 2016). As such, self-compassion might be a positive resource to protect against the effects of impostor phenomenon (Patzak et al., 2017; Wei et al., 2020). Self-compassion may help combat fear of failure, may help people view themselves with kindness, and could encourage students to hold their successes and shortcomings in balanced awareness (Neff et al., 2005).

Although self-compassion is theorized to be a personality trait that is based in early childhood attachment (Pepping et al., 2015; Wei et al., 2011), it is not a fixed trait. Specifically, it is also perceived to be a skill that can be developed (Smeets et al., 2014). In this article, self-compassion is referred to as a personality characteristic, given the cross-sectional design of the study, with the potential for it to be further developed as a skill.

Self-compassionate people are not immune to impostor experiences. However, they could use their self-compassion to protect themselves from the negative effects of impostor phenomenon. When experiencing an impostor moment, a person feels disconnected from others and feels that they are alone in their inadequacies (Patzak et al., 2017). A person often feels overly engrossed in their perceived inadequacy, which may lead them to exaggerate their suffering. When over-identifying with their pain, a person experiencing an impostor moment may respond to their suffering with harsh-self judgment and criticism (Patzak et al., 2017). In contrast, a self-compassionate person understands that inadequacies, shortcomings, and failures are a part of the human condition, which decreases feelings of isolation and increases feelings of interconnectedness (Neff, 2003). Self-compassion leads people to mindfully hold their failures and successes in a balanced awareness and to respond to their pain with kindness, care, and understanding (Neff, 2003). As such, self-compassion might be a healthy resource for combatting impostor phenomenon (Chandra et al., 2019).

The empirical evidence to support these claims is scant, but studies that have been conducted in this area have yielded robust findings. A study by Patzak et al. (2017) yielded results indicating that self-compassion was negatively correlated with impostor phenomenon. Specifically, impostor phenomenon was positively correlated with the negative components of self-compassion, such that higher impostor phenomenon scores yielded higher scores of self-judgement, isolation, and over-identification. Impostor phenomenon scores were negatively correlated with the positive components of self-compassion, such that lower scores on impostor scores were related to higher scores of self-kindness, common humanity, and mindfulness. As impostor phenomenon increases in intensity, self-compassion decreases. Patzak et al. (2017) suggested that students who experience impostor phenomenon often lack self-compassion.

Additionally, Wei et al. (2020) collected data on self-compassion and impostor phenomenon. Their correlational results corroborated the results obtained in Patzak et al. (2017). Furthermore, they found that self-compassion mediated the relationship between shame and impostor phenomenon. Specifically, greater self-compassion weakened the relationship between shame and impostor phenomenon. They suggested that self-compassion acted as a resource for students. The same measures in Wei et al. (2020) can be analogos to the threat appraisal in this study. One drawback of the Wei et al. (2020) and Patzak et al. (2017) studies is that they did not consider the impact of environmental stressors on increasing impostor experiences. The present study attempted to fill in this gap by suggesting that perceptions of campus climate can influence impostor phenomenon.

Cognitive Appraisal Theory
The impact of chilly campus climates on impostor experiences is unclear and has yet to be explored in the literature. Cognitive appraisal theory (CAT) can be used to understand the relationship between campus climate (as evaluated by perceptions of seriousness), self-compassion, and impostor phenomenon. CAT describes the process by which a person evaluates the significance of an event based on how meaningful and impactful it is to their own well-being (Lazarus & Folkman, 1984). According to Lazarus and Folkman’s (1984) transactional model of stress, cognitive appraisal occurs in two steps: primary appraisal and secondary appraisal. In primary appraisal, the individual interprets the stressors as positive, irrelevant, or dangerous (e.g., challenging, threatening, harmful). If the event is interpreted as dangerous, then the person makes a secondary appraisal wherein they analyze their available resources to address the environmental threat. If a person feels they have insufficient resources to address the threat, then this will produce a stress response. If the person feels they have sufficient resources to address the threat, this will prevent the stress response from occurring. In sum, Lazarus and Folkman (1984) posited that a person must create primary and secondary appraisals of the environmental threat before experiencing stress. Research that has used CAT has conceptualized the environmental aspect of CAT in many ways, including threats of viruses and efficacy of vaccines (So et al., 2016) and perceptions of tourist sites (Choi & Choi, 2019).
According to CAT, impostor feelings should conceptually represent a stress response to having inadequate resources to address dangerous or threatening stimuli in the environment (Lazarus & Folkman, 1984). Moreover, it was expected that, when people perceive that others in their academic environment do not take them seriously as students, they may cognitively appraise those perceptions as a threat. If students do not have adequate resources to deal with the chilly climate (e.g., low self-compassion), this may evoke a stress response in the form of impostor phenomenon. However, if students have adequate resources, such as self-compassion, to address the threat, impostor response may be avoided.

**Hypotheses**

Researchers have only recently begun to consider the positive effects of self-compassion and impostor phenomenon (Patzak et al., 2017). The present study augmented this movement by suggesting that self-compassion could serve as a positive resource to protect against impostor experiences when perceiving the campus climate to be negative and threatening.

First, it was hypothesized that perceptions of seriousness and self-compassion would be significant predictors of impostor phenomenon in students. Specifically, the more students reported being self-compassionate and being viewed as serious students, the lower impostor phenomenon will be. As such, this study sought to add to the limited but strong extant literature suggesting the existence of a relationship between levels of self-compassion and the intensity of impostor phenomenon (Patzak et al., 2017; Wei et al., 2020). Next, it was hypothesized that perceptions of seriousness and self-compassion would significantly predict impostor phenomenon. Lastly, it was hypothesized, according to CAT, that there would be a significant interaction between perceptions of seriousness and self-compassion, wherein strong perceptions of seriousness have their harmful impact only when self-compassion is low.

**Method**

**Participants**

Data were collected from 801 participants who received emails through the campus data collection office inviting them to participate in a study regarding student experiences on college campuses and intrapsychic factors. Informed consent and IRB number were given in the invitation email and first page of the Qualtrics survey. Anonymity was ensured as personal identifiers were not collected. When reviewing the data for nonserious answering behavior, 344 participants were eliminated based on incomplete data or data that suggested that the students did not take the survey seriously (e.g., students who responded “1” to each of the items throughout the questionnaire), although most of the deleted cases were people who simply opened the survey but did not start it. A total of 457 participants remained. These data were taken from a larger sample collecting data from graduate and undergraduate students. The Perceptions of Seriousness Scale (Reid & Radhakrishnan, 2003) is only validated for use on undergraduate students. After removing the graduate students from the analyzed data, 195 of the valid 457 cases were undergraduate students.

The roughly half of respondents (n = 108; 55.4%) identified as women, with the next largest group identifying as men (n = 80; 41.0%), followed by nonbinary (n = 5; 2.6%), gender nonconforming (n = 1; 0.5%), and other (n = 1; 0.5%). Of the racial groups, the White/European American group had the most representation (78.9%) respondents, followed by Asian/Asian American/Pacific Islander (10.8%), Latinx (4.4%), Black/African American (3.4%), Middle Eastern North African (1.5%), and Native American/Alaskan Native (1.0%). Regarding enrollment status, most respondents were full-time (n = 190; 97.9%). The sample also consisted of students enrolled in science, technology, engineering, and math (STEM) programs (n = 156; 79.2%). The average age of the sample was 20 (SD = 2.55).

**Measures**

**Clance Impostor Phenomenon Scale**

The Clance Impostor Phenomenon Scale (CIPS) is a 20-item scale from Chrisman et al. (1995), which measures the frequency of impostor experiences. In the current study, internal consistency for the CIPS was strong (α = .90) and consistent with what was reported in Chrisman et al. (1995; α = .89). Responses were provided on a 5-point scale (1 = not at all true; 5 = very true). Scores were calculated by taking the sum of the 20 items. Possible scores ranged from 20 to 100, with lower scores suggesting less frequent impostor experiences and higher scores suggesting more frequent impostor experiences. A sample item is: “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.”

**Perceptions of Seriousness Scale**

The Perceptions of Seriousness Scale (PSS) for undergraduate students was a six-item subscale from the Campus Climate Scale (Reid & Radhakrishnan, 2003) that explored the degree to which students feel their peers and faculty view them as serious students. Reid and Radhakrishnan (2003) reported an alpha coefficient of α = .75. In the present research, internal consistency was .77. Responses were provided on a 7-point scale (1 = strong agreement;
A Test of a Cognitive Appraisal Model | Pereira and Deemer

7 = strong disagreement). Scores were calculated by taking the average of the six items. A sample item is: “My instructors view me as a serious student.”

Self-Compassion Survey
The Self-Compassion Survey (SCS) is a 26-item scale developed by Neff (2003). The six components of self-compassion, and their Cronbach’s alpha values in the present study are as follows: Mindfulness (α = .76; 4 items), Self-Kindness (α = .77; 5 items), Common Humanity (α = .70; 4 items), Over-identification (α = .84; 4 items), Self-Judgement (α = .79; 5 items), and Isolation (α = .81; 4 items). Internal consistency for the full scale was α = .90. The observed alpha values for the present study are similar to what was reported in the initial validation of the scale (Neff, 2003). Responses were provided on a 5-point scale (1 = almost never; 5 = almost always). Scores were calculated by averaging the means of the six subscales. A higher score represented higher self-compassion. A sample item is: “I try to be loving towards myself when I’m feeling emotional pain.”

Procedure
After institutional review board approval (IRB 2020-066) was given, data were collected from a large public Midwest university in March 2020 before the campus closed for the COVID-19 pandemic. All data were collected from an online survey. The survey was distributed via an office on campus that provides a random sample of university emails based on the participant eligibility qualifications that the researcher specifies (educational level, age, race, etc.). To be eligible for participation, respondents must have been at least 18 years old and currently enrolled as college students. Within the survey, students were asked to reflect on their experiences as a student on campus. Students were not compensated for their time. Based on a test trial before sending to participants, it was estimated that respondents would take about 20 minutes to complete the items. The surveys were presented in the following order: SCS, CIPS, and PSS. Respondents completed items assessing for eligibility before the SCS (i.e., age, enrollment status) and other demographic information (e.g., year in school, gender identity) after the PSS.

Results
Statistical Method
To examine the unique contribution of perceptions of seriousness and self-compassion in the explanation of impostor phenomenon in undergraduate students, a three-step hierarchical multiple regression analysis was performed. In Step 1, impostor phenomenon was the dependent variable, and perceptions of seriousness was the independent variable. In Step 2, self-compassion was entered as a predictor into the regression equation. In Step 3, the perceptions of seriousness-self-compassion interaction term (PS x SC) was entered to test the possibility of self-compassion being a moderating variable. The variables were entered in this order because, according to CAT, cognitive appraisal begins with perceptions of threats from the environment (i.e., perceptions of seriousness) and continues to perceptions of resource availability (i.e., levels of self-compassion), which will determine whether the stress response (i.e., impostor phenomenon) occurs.

Preliminary Analyses
Before the hierarchical multiple regression analysis was performed, the independent variables were examined for distribution and collinearity. Table 1 reports the summary of the descriptive statistics for the CIPS, SCS, and PSS, respectively. The statistics indicate that the distribution of impostor phenomenon, self-compassion, and perceptions of seriousness are mostly symmetrical in the sample, as evidenced by the low skewness and low standard error. The negative skew on the CIPS and PSS indicates a slight left skew; the positive skew on the SCS and PSS indicates a slight right skew. This indicates that the data for these measures provide a reliable picture of

---

### Table 1

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>Variance</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imposter phenomenon</td>
<td>53.83</td>
<td>13.08</td>
<td>171.29</td>
<td>0.11</td>
<td>-0.61</td>
</tr>
<tr>
<td>Self-compassion</td>
<td>3.33</td>
<td>0.71</td>
<td>0.43</td>
<td>-0.29</td>
<td>0.34</td>
</tr>
<tr>
<td>Perceptions of seriousness</td>
<td>3.09</td>
<td>1.19</td>
<td>1.41</td>
<td>0.47</td>
<td>0.19</td>
</tr>
</tbody>
</table>

### Table 2

<table>
<thead>
<tr>
<th>Predictor</th>
<th>b</th>
<th>SE</th>
<th>β</th>
<th>p</th>
<th>ΔR²</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1 Perceptions of seriousness</td>
<td>-3.61</td>
<td>0.74</td>
<td>-.32</td>
<td>&lt;.001</td>
<td>.11</td>
<td></td>
</tr>
<tr>
<td>Step 2 Perceptions of seriousness</td>
<td>-1.38</td>
<td>0.63</td>
<td>-.13</td>
<td>.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-compassion</td>
<td>-12.12</td>
<td>1.13</td>
<td>-.61</td>
<td>&lt;.001</td>
<td>.31</td>
<td>.44</td>
</tr>
<tr>
<td>Step 3 Perceptions of seriousness</td>
<td>-2.34</td>
<td>3.20</td>
<td>-.21</td>
<td>.46</td>
<td>.00</td>
<td>.44</td>
</tr>
<tr>
<td>Self-compassion</td>
<td>-12.97</td>
<td>3.01</td>
<td>-.65</td>
<td>&lt;.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceptions of seriousness x self-compassion</td>
<td>0.28</td>
<td>0.91</td>
<td>.11</td>
<td>.75</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
self-compassion in this sample, wherein the observed scores, $E$, are close to the respondents’ true score, $T$.

Results of the variance inflation factor (all less than 1.5) and collinearity tolerance (all greater than .9) suggest that the estimated $\beta$s are well-established in the following regression model. These conclusions suggest that the variance of the coefficients was not inflated by multicollinearity. This means that the independent variables are not too closely related to where only one should be used in the subsequent analyses.

Main Analyses
The hierarchical multiple regression revealed that, at Step 1, perceptions of seriousness contributed significantly to the regression model, $F(1, 195) = 23.56$, $\beta = -.32$, $p < .001$, $R^2 = .11$, $f^2 = .12$, accounting for 10.8% of the variation in impostor phenomenon (see Table 2).

Introducing self-compassion at Step 2 explained an additional 33.2% of variation in impostor phenomenon. The Step 2 model indicated that this change in $R^2$ was significantly different from zero, $\Delta F(2, 194) = 76.23$, $\beta = -.66$, $p < .001$, $\Delta R^2 = .31$, $R^2 = .44$, $f^2 = .59$. When self-compassion was entered in Step 2, perceptions of seriousness remained a significant predictor of the outcome ($\beta = -.13$, $p = .02$), but was not as robust a predictor as it was in Step 1 ($\beta = -.32$, $p < .001$). Together, self-compassion and perceptions of seriousness accounted for 44% of the observed variance in impostor phenomenon.

The addition of the Perceptions of Seriousness x Self-Compassion interaction term in Step 3 did not yield any improvement in the model fit, $\Delta F(3, 193) = 50.62$, $\beta = -.11$, $p = .75$, $\Delta R^2 = .00$, $R^2 = .44$, $f^2 = .00$, nor did it account for any of the observed variance in the outcome variable. Self-compassion remained a significant predictor of impostor phenomenon ($\beta = -.65$, $p < .001$), but perceptions of seriousness no longer predicted the outcome ($\beta = -.21$, $p = .46$).

Discussion
Impostor phenomenon, the difficulty to internalize success (Clance & Imes, 1978), is an emerging area of research as investigators continue to understand its manifestation. The positive effects of self-compassion on impostor phenomenon is an emerging area of research (Patzak et al., 2017; Wei et al., 2020). However, researchers have not fully considered the impact of environmental stressors on impostor experiences. The goal of the study was to fill this gap in the literature by suggesting that self-compassion could be a positive resource to protect against impostor experiences when perceiving the campus climate to be negative and threatening.

The data supported the hypothesis that perceptions of seriousness would be a significant negative predictor of impostor phenomenon in students. Specifically, students who reported that they were not taken very seriously by others also reported increased impostor experiences. As such, perceptions of seriousness seem to play a small yet significant role in impostor phenomenon. These claims and findings appear to be congruent with the implications drawn from Ferrari and Thompson (2006) wherein impostors try to appear capable and successful to feel that they have the respect of others. It may be that, when a student perceives that other students and faculty on campus do not take them seriously, they could internalize those perceptions, which can influence existing impostor experiences. If a student feels they are not viewed seriously by others, this may influence their thoughts of feeling like a phony or a fake. Ferrari and Thompson (2006) also concluded that impostors do not prefer to be in situations where real or perceived personal faults could be noticed by others. This conclusion may explain why the amount of variance in impostor phenomenon by perceptions of seriousness was so small. It is likely that people with impostor experiences may avoid those who make them feel less respected. This may be viewed as a self-preserving behavior.

The data suggested that more self-compassion likely leads to less impostor experiences. This conclusion is consistent with other research exploring these variables. Existing literature (Patzak et al., 2017; Wei et al., 2020) has suggested that self-compassionate people are more likely to have healthier coping mechanisms during an impostor moment. In an impostor moment, people with little self-compassion can feel alone in their struggles, feel wrapped up in their pain, and treat themselves with judgment. On the other hand, people who are more self-compassionate experience impostor moments respond differently. Specifically, they understand that they are not alone in their suffering because other people are experiencing similar feelings, they mindfully view their experiences in balanced awareness, and they treat themselves with kindness and gentleness (Neff, 2011). As such, the basic tenants of self-compassion contrast with how people react in impostor moments.

The third hypothesis was that perceptions of seriousness and self-compassion would interact in predicting impostor phenomenon, such that self-compassion would moderate the relationship between perception of seriousness and impostor phenomenon. The third model, which explored the interaction of the predictor variables (i.e., self-compassion and perceptions of seriousness), did not receive support because the data did not show an interaction between the predictor variables. These findings contrast with available research (Anjum...
et al., 2020) suggesting self-compassion does moderate environmental and intrapsychic variables. It could be that the hypothesis could be supported in a different sample. Specifically, several studies of campus climate tend focus on specific groups of historically minoritized and disadvantaged students (Graham & McClain, 2019; Jensen & Deemer, 2019). Specifically, in these studies, researchers have found that students who do not favorably view university spaces they occupy are likely to feel a lack of belonging and representation, which has shown to increase feelings of impostor features (Burt et al., 2018, Graham & McClain, 2019; McGee et al., 2022). The university where students were recruited from is a predominantly White institution, which is reflected in the mostly White sample collected in this study. Impostor phenomenon has been shown to be influenced by racial discrimination in minoritized groups (Cokley et al., 2013; McGee et al., 2022; Stone et al., 2018). However, this occurrence may not be seen in a majority White sample. Subsequent research should replicate these findings with racial minorities at predominantly White institutions to determine if students from historically minoritized and disadvantaged backgrounds may perceive that they are not taken as seriously by others and what coping mechanisms they employ to prevent impostor phenomenon.

More research is needed to understand the relationship between perceptions of seriousness and self-compassion. Specifically, it may be beneficial to identify if perceptions of seriousness from certain groups of people (e.g., peers, faculty, support staff) are more or less impactful for students and if there are differences in the moderation effect of self-compassion in these domains.

There are factors which limit the claims made in this study. However, it may be that addressing these limitations opens several directions for future research. First, these data were collected at a large predominantly White institution in a rural midwestern state. Future research should consider if differences in campus sizes, demographics (e.g., Historically Black Colleges and Universities, Hispanic Serving Institutions, women’s colleges), region type (e.g., metropolitan), or type of college (e.g., community college, trade school) affect how students perceive their campuses. It would be unwarranted to assume that these data characterize all students in all contexts. Using different identity groups and college settings could help to understand how perceptions of seriousness, impostor phenomenon, and self-compassion intersect.

Second, the study design was cross-sectional, so inferences cannot be drawn about the changes in the variables over time. Other researchers may consider a longitudinal study to measure the development of these variables over time. Some research has suggested that self-compassion and impostor phenomenon have a developmental process. Self-compassion specifically is suggested to be rooted in early attachment behaviors (Mikulincer et al., 2005; Neff & Beretvas, 2013; Pepping et al., 2015; Wei et al., 2011). A developmental model of impostor phenomenon in African American youth has been created by Bernard and Neblett (2018). They identified factors, such as academic context, parenting variables, and racial discrimination, as contributing to the development of impostor phenomenon in African American youth. Longitudinal research exploring cognitive appraisal and impostor phenomenon should consider the tenets presented in Bernard and Neblett (2018).

Next, these claims were based on mean group values, and cannot account for individual experiences. Further, the data were based off self-reported attitudes, so these data could have been subject to social desirability bias. A portion of the data was removed due to incomplete responses and answering patterns, which reflected nonserious answering techniques (e.g., answering “1” for all items). Relatedly, cases in which the surveys were opened but never started were removed. This meant that much of the data was eliminated before data analysis. Future research should consider using a social desirability scale and validity questions to help determine response seriousness. Lastly, selection bias might have been a contributing factor, wherein people who were more interested in the topic might have been more likely to participate in the study.

Research in impostor phenomenon has largely utilized survey-based research paradigms (Bravata et al., 2020; Stone-Sabali et al., 2023). A qualitative design could provide more nuance to this topic, wherein self-compassion, impostor phenomenon, and perceptions of seriousness could be better assessed in a small group setting where the researcher(s) could probe for more detail and clarification from the participants’ experiences. Future researchers conducting impostor research should look to past examples of qualitative IP research (Campion & Glover, 2017; Chakraverty, 2019; Harris 2016; Stone et al., 2013) to determine how to include more qualitative methodologies in their work.

Since self-compassion is a skill that can be developed (Smeets et al., 2014), the hypotheses presented in this paper could be better tested in a randomized control trial. Specifically, students could be broken into treatment-waitlist groups to see if the development of self-compassion may influence impostor phenomenon and if an interaction could be observed between perceptions of seriousness and self-compassion. Future research might employ the Mindful Self-Compassion Program (Neff & Germer, 2013), which is an eight-week workshop to teach participants how to cultivate self-compassion. This
could help determine if changes in impostor features and perceptions of campus climate change after learning how to be more self-compassionate. In a randomized control trial with college students, Haukaas et al. (2018) found that the program increased posttreatment self-compassion scores and reduced posttreatment anxiety and depression scores. The changes were maintained at a six-month follow-up.

In sum, further research is needed to better understand how the environment promotes feelings of impostor phenomenon. Research ought to consider what skills students can cultivate to protect themselves against the negative outcomes of impostor features. This study highlights the continued need for an in-depth understanding of self-compassion, perceptions of seriousness, and the degree to which they work together or independently to influence impostor phenomenon in students.

References
A Test of a Cognitive Appraisal Model | Pereira and Deemer


**Author Note**

Jessica Renee Bowen Pereira [1](https://orcid.org/0009-0001-2539-6983)

Eric D. Deemer [1](https://orcid.org/0000-0001-9228-6269)

We have no known conflict of interest to disclose. No financial support was received for this study.

Correspondence concerning this article should be addressed to Jessica Renee Bowen Pereira, Department of Educational Studies, Purdue University, 100 North University Street, West Lafayette, Indiana, 47907, United States of America. Email: bowen63@purdue.edu.
Publish Your Research in *Psi Chi Journal*
Undergraduate, graduate, and faculty submissions are welcome year round. Only one author (either first author or coauthor) is required to be a Psi Chi member. All submissions are free. Reasons to submit include

- a unique, doctoral-level, peer-review process
- indexing in PsycINFO, EBSCO, and Crossref databases
- free access of all articles at psichi.org
- our efficient online submissions portal

View Submission Guidelines and submit your research at [www.psichi.org/?page=JN_Submissions](http://www.psichi.org/?page=JN_Submissions)

Become a Journal Reviewer
Doctoral-level faculty in psychology and related fields who are passionate about educating others on conducting and reporting quality empirical research are invited become reviewers for *Psi Chi Journal*. Our editorial team is uniquely dedicated to mentorship and promoting professional development of our authors—Please join us!

To become a reviewer, visit [www.psichi.org/page/JN_BecomeAReviewer](http://www.psichi.org/page/JN_BecomeAReviewer)

Resources for Student Research
Looking for solid examples of student manuscripts and educational editorials about conducting psychological research? Download as many free articles to share in your classrooms as you would like.

Search past issues, or articles by subject area or author at [www.psichi.org/journal_past](http://www.psichi.org/journal_past)

Learn About Psi Chi
Psi Chi is the International Honor Society in Psychology. Membership is primarily open to undergraduates, graduate students, transfer students, full-time and part-time faculty members, and alumni.

See membership benefits and a link to apply at [www.psichi.org/page/member_benefits](http://www.psichi.org/page/member_benefits)