

Factors Related to the Impostor Phenomenon in Psychology Doctoral Students

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The purpose of this study was to investigate the Impostor Phenomenon's (IP's) relationship to perfectionistic cognitions, depression, anxiety, achievement motives, self-efficacy, self-compassion, and self-esteem in clinical and counseling psychology doctoral students. Further, this study sought to investigate how IP interferes with academic, practicum, and internship performance of these students and how IP manifests throughout a psychology doctoral program. Eighty-four clinical and counseling psychology doctoral students responded to an online survey. The data was analyzed using a Pearson's product-moment correlation and a multiple linear regression. Perhaps the most striking finding of the study is that 88% of students in the sample reported at least moderate feelings of the IP. This study also found significant positive correlations between the IP and perfectionistic cognitions, depression, anxiety, and self-compassion. In addition, as anticipated, one significant negative correlation emerged with achievement motives. Further, seven variables statistically significantly predicted feelings of the IP, with perfectionistic cognitions, depression, and achievement motives, adding statistical significance to the prediction. These findings add to existing literature regarding how IP manifests itself and impacts psychology doctoral student academic success. Further continued investigations will help educators and trainers understand more clearly how students are affected by the IP. Faculty and clinical supervisors

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should take a supportive approach to assist students to diminish feelings of the IP and enhance their competence and confidence to provide effective services to their clients.

Public Significance Statement

This article provides an exploration of the relationship between the Impostor Phenomenon and perfectionistic cognitions, depression, anxiety, achievement motives, self-efficacy, self-compassion, and self-esteem, in clinical and counseling psychology students. Recommendations to help faculty and staff aid students effectively manage and reduce their experiences of the Impostor Phenomenon are provided.

Keywords: impostor phenomenon, psychology doctoral students, mental health, training

The *Impostor Phenomenon* (IP) is a term developed by Clance and Imes (1978, p. 1), “to designate an internal experience of intellectual phoniness.” Success is likely attributed to luck or coincidence rather than knowledge and competence (Clance & Imes, 1978). When the authors examined over 150 successful women from various fields, they found that the women considered themselves to be impostors, despite their academic achievements as these women found ways to invalidate their accomplishments and intelligence. Clance and Imes (1978) stated that family dynamics during childhood, culture, attribution style, and gender role stereotypes from society contribute to the development of IP. They also observed different behaviors that contribute to an individual maintaining feelings of the IP over time, such as diligence/hard work, having a sense of phoniness, and using one’s charm to get approval from others in higher positions (Clance & Imes, 1978).

Notable correlations between perfectionistic cognitions, depression, anxiety, and achievement motivation have been established through research conducted by Flett, Hewitt, Blankstein, and Gray (1998). These psychosocial factors will be explored along with other factors to determine whether there is a relationship between these various factors and IP among clinical and counseling psychology doctoral students. Specifically, this study was designed to examine the IP and its relationship to depression, anxiety, achievement motives, self-esteem, self-efficacy, self-compassion, and perfectionistic cognitions in psychology doctoral students.

Variables Examined

Significant correlations have been found when investigating the relationships between depression, anxiety, and the IP (Bernard, Dollinger, & Ramaniah, 2002; Clance & Imes, 1978; Chae, Piedmont, Estadt, & Wicks, 1995). Further, it is believed that perfectionistic beliefs are one of the most commonly endorsed irrational beliefs for individuals who experience the IP (Cromwell, Brown, Sanchez-Hucules, & Adair, 1990). Little research, however, has explored the IP in psychology graduate students, even though it is commonly known that graduate school is filled with anxiety-provoking assignments and experiences. Fraenza (2016) discussed how doctoral students commonly experience anxiety and feel that they may have been admitted into their program by mistake.

Though researchers have explored the relationship between self-esteem and IP, the results have shown differences in directionality of the correlations that emerged (Kolligian & Sternberg, 1991; Harvey, 1981; Sonnak & Towell, 2001). In addition, there is limited research that investigates achievement motives, self-

efficacy, self-compassion, and IP. To gain a better understanding of these factors and IP among psychology graduate students, the investigators conducting this study seek to add to the existing literature about the directionality if significant correlations emerge.

Summary

Individuals who experience IP live their lives in constant fear of being discovered as less intelligent or competent than others believe them to be, which may push them to reach toward impossibly high standards of achievement and success (Clance & Imes, 1978). The negative cycle of IP leaves individuals in a state of uncomfortable anxiety, especially in the face of imminent evaluations (Kolligian & Sternberg, 1991). Frequent evaluations are a consistent experience across graduate programs; as are high workloads and reoccurring deadlines, which burden students. The tendency for graduate students who are experiencing IP to misattribute their success to luck or the mistakes of others, may lead to fears which can negatively impact their performance in the classroom and field (Clance & O’Toole, 1987).

Thus, the purpose of this study was to investigate if depression, anxiety, self-esteem, self-efficacy, perfectionism, self-compassion, and achievement motivation were related to a clinical or counseling psychology doctoral student’s feelings of the IP.

Method

Literature supports the existence of the IP within doctoral psychology trainees, suggesting that there may be a relationship between self-perception and responsibilities that accompany doctoral-level education (Parkman, 2016). However, there is a lack of literature exploring how the aforementioned variables may contribute to a psychology graduate student who experiences the IP.

Thus the hypotheses investigated in this study are as follows. Psychology doctoral students who report

1. high depression will report more experiences of the IP;
2. high anxiety will report more experiences of the IP;
3. high achievement motives will report more experiences of the IP;
4. low self-esteem will report more experiences of the IP;

5. low self-efficacy will report more experiences of the IP;
6. high perfectionistic cognitions will report more experiences of the IP; and
7. low self-compassion will report more experiences of the IP.

Participants

Participants for this study were students enrolled in doctoral programs in clinical or counseling psychology. Participation was voluntary and all participants had an equal chance to participate. After receiving approval from Alliant International University's International Review Board, participants were recruited via e-mail, using addresses of doctoral program and psychology internship training directors. A recruitment e-mail was sent to a list of 35 randomly selected program directors (13 internship and 22 academic). Training directors were asked to forward the recruitment e-mail to their students or interns. The inclusion criteria required that all participants be 18 years of age or older and an enrolled psychology doctoral student.

A minimum sample size of 76 participants was required to accurately interpret the data from this study based on an analysis to determine the number of participants needed to run a Pearson's correlation and multiple linear regression, with an $\alpha = .05$ and a medium effect size (0.15), to yield a power of 0.80 (Cohen, 1992). Cross-validation of predictors by comparing individual variables to each other will be important in determining the strength of each relationship. According to Cohen (1992), the f^2 effect size measure for a medium population effect size must be 0.80. A power of 0.80 was used, with an alpha level of .05 ($\alpha = .05$). Cohen's (1992) research further suggests that any power smaller than 0.80 would increase the risk of a Type II error and would require a larger number of participants.

Participants were informed about this study's survey through the use of electronic mailing by using addresses of doctoral program and psychology internship training directors and by word of mouth. This method of sampling allowed for recruitment of new participants through passing on of information from initial participants in the study, thus resulting in referrals for additional participants. The sampling method was a nonprobability approach, which is used to collect data that may otherwise be difficult to obtain by offering the ability to gain access to a wide variety of students in psychology doctoral programs and internships. This method provided a quick and easy means of collecting data.

Measures

Demographic information. Participants were asked 13 questions, including their age, gender, ethnicity, language, major, type of doctoral program, program accreditation, years enrolled in doctoral program, years of prior clinical/counseling experience, current assessment/intervention hours accrued, and current credentials. This information provided a broad description of each participant and was used to identify demographic differences when evaluating the variables most strongly associated with participant's experience of IP.

Achievement Motives Scale—Revised. The revised 10-item version of the Achievement Motives Scale (AMS-R) is a valid

measure based on a study by Lang and Fries (2006). Results suggested that the subscales Hope of Success and Fear of Failure are valid indicators of self-attributed achievement motives. This scale provides adequate reliability, lower interscale correlations, and criterion-related validity with respect to typical criteria of achievement-related behavior. The mean AMS-R demonstrated fair internal reliability ($\alpha = .70$) in our sample.

Generalized Anxiety Disorder. The Generalized Anxiety Disorder (GAD-7) is a 7-item self-report questionnaire with evidence supporting high reliability and validity to assess anxiety in the general population (Spitzer, Kroenke, Williams, & Löwe, 2006). The internal consistency of the GAD-7 was excellent (Cronbach's $\alpha = .92$) with good test-retest reliability (intra-class correlation = 0.83). The mean GAD-7 demonstrated very high internal reliability ($\alpha = .92$) in our sample.

General Self-Efficacy Scale. The 10-item General Self-Efficacy Scale (GSE) is a valid measure based on a study by Schwarzer and Jerusalem (1995). Findings suggest that optimistic self-beliefs and beliefs that one's actions are responsible for success are valid indicators of self-efficacy. The GSE provides adequate test-retest reliability, internal consistency, face validity, and content with regards to typical criteria for self-efficacy related behaviors. The mean GSE demonstrated high internal reliability ($\alpha = .89$) in our sample.

Patient Health Questionnaire. The Patient Health Questionnaire (PHQ-9) is a nine item self-report questionnaire measuring depression. This measure has strong reliability and validity data based on a study conducted by Kroenke, Spitzer, and Williams (2001). The internal reliability of the PHQ-9 was high, with a Cronbach's α of 0.89 in the PHQ Primary Care Study and 0.86 in the PHQ OB-GYN Study, and also had test-retest reliability (Kroenke et al., 2001). Their research demonstrated criterion validity, construct validity, and external reliability. The mean PHQ-9 demonstrated high internal reliability ($\alpha = .90$) in our sample.

Perfectionistic Cognitions Inventory. Flett and colleagues (1998) developed the 25-item Perfectionistic Cognitions Inventory (PCI) through a series of five empirical studies. The PCI was found to have adequate validity, reliability, criterion-related validity, and differentiated between perfectionistic cognitions versus personality traits related to perfectionism. The mean PCI demonstrated very high internal reliability ($\alpha = .94$) in our sample.

Rosenberg Self-Esteem Scale. The 10-item Rosenberg Self-Esteem Scale (RSES) is a valid measure based on a number of studies including one by Nho (2000). Findings suggest that self-characteristics, aspects of self-functioning and self-worth relative to the perceived characteristics of peers, are valid indicators of self-esteem. The RSES provides adequate test-retest reliability, internal consistency, and criterion-related validity with regards to typical criteria of self-esteem related cognitions. The mean RSES demonstrated fair internal reliability ($\alpha = .71$) in our sample.

Self-Compassion Scale. The 12-item Self-Compassion Scale-Short Form (SCS-SF) was created from the 26-item Self-Compassion Scale (SCS). The findings from Neff (2003) found that self-compassion was connected to psychological well-being and higher self-esteem. Raes, Pommier, Neff, and Van Gucht (2011) found the SCS-SF to be a valid and reliable measure showing good internal consistency (Cronbach's $\alpha \geq .86$) and an almost perfect correlation with the longer version of SCS ($r \geq$

.97). The mean SCS demonstrated fair internal reliability ($\alpha = .70$) in our sample.

Clance Impostor Phenomenon Survey. The Clance Impostor Phenomenon Scale (CIPS) investigates the level of impostorism in an individual using 20 items. Research has supported the validity of the IP, and discriminant validity was supported through a study conducted by Chrisman, Pieper, Clance, Holland, and Glickauf-Hughes (1995). This measure has a high level of internal reliability with alpha values ranging from .84 to .96 (Chrisman et al., 1995). The creators of the CIPS determined cutoff scores as it related to the experiences of IP: If the total score was 40 or less, the participant experienced few impostor characteristics; if the score was between 41 and 60, the participant experienced moderate IP characteristics; frequent experiences of IP were between 61 and 80; and a score greater than 80 suggested intense IP feelings (Clance, 1986). The mean CIPS demonstrated very high internal reliability ($\alpha = .95$) in our sample.

Procedure

The measures for this study were made available as a web-based survey accessible to anyone who was at least 18 years old and enrolled in a doctoral program in clinical or counseling psychology. The combined survey included a demographic questionnaire, AMS-R, GAD-7, GSE, PHQ-9, PCI, RSES, SCS, and CIPS and contained approximately 100 questions.

The researchers of this study obtained participants through use of e-mail distribution, using addresses of doctoral program and psychology internship training directors. A letter explaining the aims of this study were addressed to training directors who then at their discretion dispersed the request to students and interns. An introduction to the study was made available to all participants, including an overview of the purpose and procedures of the study. After the participants read and submitted their consent, they were directed to the study questionnaire.

Each participant began this study by completing the detailed demographic questionnaire, then participants completed eight additional questionnaires, which were presented in a varying-point Likert scale formats. Upon completion, participants were thanked for their time.

Data Analysis

This study explored the relationship between the study variables and participants' experience of the IP. Demographics information were included in the analysis to explore further whether these variables account for variations in the experience of the IP. Data was analyzed using Pearson's correlation to determine the relationship between the aforementioned variables and experiences of the IP. A multiple regression analysis was used to determine which independent variables most correspond with participants' experiential rating of IP, as well as to identify the extent of the relationship.

Statistical assumptions. The statistical assumptions for the Pearson correlation include (a) the variables are continuous and measured at an interval level; (b) there was a linear relationship between variables being examined; (c) if significant outliers were found they were removed; (d) variables had a normal distribution; and (e) there was homogeneity of variance within the data ("Laerd

Statistics", n.d.). The first assumption was met due to the nature of the questionnaires being analyzed for each of the explored variables. Version 25 of the Statistical Package for the Social Sciences (SPSS) program was used to analyze the data and no violations were found.

Results

There were 84 clinical and counseling psychology doctoral students (17 interns and 67 doctoral students) who responded to the survey. The vast majority of respondents (88%) were female, almost 80% of the sample were between the ages of 21 and 30, and 63% were White, whereas 37% were members of other ethnicities. Table 1 displays the complete demographic information of our sample.

Examining the Study's Hypotheses

This study explored the relationships between the IP and several study variables. Pearson correlation analyses and two-tailed alpha

Table 1
Participant Descriptive Statistics

Variable	<i>n</i>	%
Gender		
Male	9	11.00
Female	74	88.00
Prefer not to answer	1	1.00
Age		
21–25	25	30.00
26–30	40	48.00
31–36	14	16.50
37–40+	5	5.50
Ethnicity		
White/Caucasian	53	63.00
Hispanic/Latino	11	13.00
African American	3	3.50
Bi/multiracial	9	10.50
Other	8	10.00
English as a first language		
Yes	76	90.00
No	8	10.00
Major		
Clinical	67	80.00
Counseling	17	20.00
Type of doctoral program		
PhD	47	56.00
PsyD	37	44.00
Accredited program		
Yes	84	100.00
No	0	0.00
Years enrolled		
1–3	53	63.00
4–6	30	36.00
7+	1	1.00
Total	84	100.00
Currently completing internship		
No	67	80.00
Yes	17	20.00
Masters in psychology or related field		
No	59	70.00
Yes	25	30.00

Note. *N* = 84.

level tests of significance at .05 were used to determine the statistical significance of the correlations.

Prevalence. It was striking to learn that 88% of psychology graduate students reported at least moderate feelings of the IP. Specifically, 31% of psychology graduate students reported moderate feelings of the IP, whereas 40% reported frequent feelings and 17% indicated intense feelings. This finding should be concerning to faculty and program directors as well as students. The mean level for experiences of the IP was 62.62 ($SD = 17.69$), which is in the frequent range.

Depression and IP. It was hypothesized that psychology doctoral students who report high levels of depression would report more experiences of the IP. The mean level for depression was moderately severe, 17.54 ($SD = 6.39$). As displayed in Table 2, a statistically significant positive correlation emerged between the participants' depression levels and their experiences of IP, $r(82) = 0.47$, $p < .01$, $r^2 = 0.22$ indicating that individuals who are more depressed reported more feelings of IP.

Anxiety and IP. It was hypothesized that psychology doctoral students who report high levels of anxiety would report more experiences of the IP. The mean level for anxiety was severe, 17.62 ($SD = 6.32$). As displayed in Table 2, a statistically significant positive correlation emerged between the participants' anxiety levels and their experiences of IP, $r(82) = 0.50$, $p < .01$, $r^2 = 0.25$ indicating that as graduate students experience more anxiety, they experience more IP.

Self-esteem and IP. It was hypothesized that psychology doctoral students who report low self-esteem would report more experiences of the IP. The mean level for self-esteem was 23.36 ($SD = 2.61$), with scores below 15 suggesting low self-esteem. The results, presented in Table 2, indicated there was no significant correlation between the participants' self-esteem levels and their experiences of IP, $r(82) = -0.16$, $p = .11$, $r^2 = 0.03$.

Self-efficacy and IP. It was hypothesized that psychology doctoral students who report low self-efficacy would report more experiences of the IP. The mean level for self-efficacy was 31.13 ($SD = 4.46$), with higher scores indicating more self-efficacy. The results indicated there was no statistically significant correlation between the participants' self-efficacy levels and their experiences of IP, $r(82) = -0.17$, $p < -0.12$, $r^2 = 0.03$.

Perfectionistic cognitions and IP. It was hypothesized that psychology doctoral students who report high perfectionistic cognitions would report more experiences of the IP. The mean level for perfectionistic cognitions was 73.26 ($SD = 20.31$), with higher scores reflecting increased perfectionistic cognitions. A statistically

significant positive correlation emerged between the participants' perfectionism levels and their experiences of IP, $r(82) = 0.65$, $p < .01$, $r^2 = 0.42$ indicating that those graduate students who have more perfectionistic tendencies have more experiences of IP.

Self-compassion and IP. It was hypothesized that psychology doctoral students who report low self-compassion would report more experiences of the IP. The mean level for self-compassion was 39.38 ($SD = 7.14$), with higher scores indicating higher levels of self-compassion. A statistically significant positive correlation emerged between the participants' self-compassion and their experiences of IP, $r(82) = 0.48$, $p < .01$, $r^2 = 0.23$ indicating that students who experience more self-compassion experience more feelings of the IP.

Achievement Motives and IP. It was hypothesized that psychology doctoral students with high achievement motives would report more experiences of the IP. The mean level for achievement motives was 19.24 ($SD = 3.52$). Presented in Table 2, a statistically significant negative correlation emerged between the participants' achievement motives and their experiences of IP, $r(82) = -0.57$, $p < .01$, $r^2 = 0.32$ indicating that as graduate students experience higher achievement motives, they will experience less IP.

Predicting IP. A multiple regression analysis was conducted to examine if depression, anxiety, self-esteem, self-efficacy, perfectionistic cognitions, self-compassion, and achievement motives predicted feelings of the IP. Results suggested these variables statistically significantly predicted feelings of the IP, $F(7, 72) = 12.608$, $p < .01$, $r^2 = .551$. Perfectionistic cognitions, depression, and achievement motives added statistically significantly to the prediction, $p < .05$. These results suggest that any of the combined variables mentioned above can contribute to a student's feelings of the IP. The results are presented in Table 3.

Post Hoc Analyses

After analyzing the study variables, the relationships between the independent variables were examined. When observing correlations involving perfectionistic cognitions, there were significant positive correlations with depression, $r(82) = 0.41$, $p < .01$, $r^2 = 0.17$; anxiety, $r(82) = 0.56$, $p < .01$, $r^2 = 0.31$; and self-compassion, $r(82) = 0.46$, $p < .01$, $r^2 = 0.21$; and a significant negative correlation with achievement motives, $r(82) = -0.56$, $p < .01$, $r^2 = 0.31$. The correlations involving depression, revealed a significant positive correlation with anxiety, $r(82) = 0.70$, $p < .01$, $r^2 = 0.49$.

Table 2
Correlation Matrix of the Study's Variables

Variable	1	2	3	4	5	6	7	8
1. Perfectionistic cognitions	—							
2. Depression	0.41**	—						
3. Anxiety	0.56**	0.70**	—					
4. Achievement motives	-0.56**	-0.19	-0.36**	—				
5. Self-efficacy	-0.07	-0.26*	-0.42**	0.18	—			
6. Self-compassion	0.46**	0.18	0.28*	-0.46**	0.10	—		
7. Self-esteem	-0.14	-0.22	-0.21	0.22*	0.41**	0.06	—	
8. Impostor phenomenon	0.65**	0.47**	0.50**	-0.57**	-0.17	0.48**	-0.16	—

* $p < .05$, two-tailed. ** $p < .01$, two-tailed.

Table 3
Summary Table of Standard Regression Analysis Predicting
Feelings of the Impostor Phenomenon

Variable	B	SE B	β	t	p
1. Depression	0.67	0.31	0.25	2.19	0.03*
2. Anxiety	-0.11	0.35	-0.42	-0.32	0.75
3. Achievement motives	-1.15	0.51	-0.23	-2.27	0.03*
4. Self-esteem	-0.97	0.68	-0.12	-1.41	0.16
5. Self-efficacy	-0.71	0.40	-0.16	-1.79	0.08
6. Perfectionistic cognitions	0.25	0.10	0.28	2.51	0.01**
7. Self-compassion	0.28	0.24	0.10	1.14	0.26

* $p < .05$. ** $p < .01$.

.01, $r^2 = 0.49$, and a significant negative correlation with self-efficacy, $r(82) = -0.26$, $p < .05$, $r^2 = 0.07$. Anxiety was found to be significantly positively correlated with self-compassion, $r(82) = 0.28$, $p < .01$, $r^2 = 0.08$, and significantly negatively correlated with achievement motives, $r(82) = -0.36$, $p < .01$, $r^2 = 0.13$ and self-efficacy, $r(82) = -0.42$, $p < .01$, $r^2 = 0.18$. Achievement motives was found to have a significant positive correlation with self-esteem, $r(82) = 0.22$, $p < .05$, $r^2 = 0.05$, and a significant negative correlation with self-compassion, $r(82) = -0.46$, $p < .01$, $r^2 = 0.21$. Finally, self-efficacy was positively correlated with self-esteem, $r(82) = 0.41$, $p < .01$, $r^2 = 0.17$. Analyses of these variables revealed their interconnecting nature and many of these findings are supported in the empirical literature. We believe the findings of these relationships lends support to the relationships discovered when the hypotheses for this study were analyzed.

In addition to analyzing these variables, several post hoc analyses were conducted examining the variables' relationships with IP. For instance, the relationship between IP and whether graduate students were on internship or earlier in their program, did or did not have a masters degree, were Ph.D. or Psy.D. students, were enrolled in clinical or counseling psychology programs, were male or female, were White or ethnic students, or were younger or older students were examined. Surprisingly, no significant correlations emerged, and there were no significant differences found in students who reported few or intense experiences of the IP.

Discussion

This study investigated the relationship between depression, anxiety, achievement motives, self-esteem, self-efficacy, perfectionistic cognitions, and self-compassion, in regards to experiences of IP among clinical or counseling psychology doctoral students. Although only 76 participants were needed for appropriate power to analyze the results, 84 graduate students responded to the survey. As with every study, there are limitations to the methods and measures that must be considered when interpreting and discussing the results.

Limitations

The research team fully anticipated that the self-report data obtained from participants is accurate regarding their current academic and professional practice, as well as their subjective experience of the IP, the measures of this study relied on participants'

accounts of these experiences. As is commonly known, self-report data may be subject to potential imprecision and potential bias. Further, given that this study was conducted online there were no controls over the testing environment. For example, confounding variables such as situational stress, current mood, and burnout may have influenced the participants' responses. Finally, the generalizability of this study's data may be limited given the recruitment procedures. The recruitment method has been used in many studies to gather a diverse sample but is unable to control for an even distribution of participant demographics. However, the sample of participants, gender (88% women), ethnicity (63% White), less than 3 years enrolled in a graduate program (63%), and not enrolled in an internship program (80%) are generally reflective of the current training environment and profession of psychology. With these limitations in mind, it is useful to discuss the implications of the results of this study.

Implications

As noted by researchers, many individuals who have identified with impostor-like feelings had frequently reported symptoms of depression (Bernard et al., 2002; Clance & Imes, 1978). Participants reported feelings of depression and anxiety, and endorsed perfectionism, all of which were significantly positively correlated with the IP. These findings are supported in the literature discussing how doctoral trainees commonly experience the IP, which may often lead to questioning their competence and further contributing to feelings of inadequacy, anxiety, depression, and perfectionistic cognitions (Flett et al., 1998; Keefer, 2015). Therefore, it is crucial for students to engage in self-reflection to increase awareness about the manifestation of these symptoms and the impacts it can have on their mental health and academic, professional and personal performance. This can be accomplished in various courses provided by the program they are enrolled in, as Keefer (2015) found that the experience of the IP might also differ in terms of the quantity and quality of a doctoral program, as well as the student's self-perception.

The researchers of this study were surprised to learn that results suggested that graduate students who experience higher achievement motives endorsed fewer experiences of the IP. It was hypothesized that students who would report higher levels of achievement motives would have more anxiety due to the pressures placed on them to succeed, thus leading to more experiences of the IP. Though this significant relationship between achievement motives, anxiety, and IP appears to be inconsistent with the literature, the researchers believe that this may be due to the student's general interest in succeeding, thus seeking help from professors, supervisors, and mentors. In addition, the fear of failure may push high achieving students to speak up when in need of guidance or assistance. Another inconsistent finding from this study was the positive relationship between self-compassion and experiences of the IP. The researchers of this study believe that those with higher levels of self-compassion seem to engage in more kindness toward oneself and acknowledge imperfections. However, this does not necessarily diminish feelings of guilt and anxiety; those who are self-compassionate may still feel doubtful and externalize their successes.

It is noteworthy that no significant relationships emerged when analyzing the experiences of the IP to self-efficacy and self-

esteem. Differences in directionality of the relationship between experiences of the IP and self-esteem have been established in the literature, however self-efficacy has yet to be investigated. Perhaps self-esteem and self-efficacy were not significantly correlated to the IP because they are more chronic states when low, and these participants may have learned compensatory strategies or self-narratives to mask an underlying sense of inadequacy.

The results of this study highlight some of the obstacles doctoral students face while enrolled in a psychology doctoral program and support the notion that experiences of the IP can significantly impact their personal and academic functioning. The internal experience of intellectual phoniness and perfectionism coupled with symptoms associated with depression and anxiety, may likely contribute to academic difficulties, such as inadequate focus, low motivation, and decreasing mental acuity. This can lead to significant impairments for students in regards to learning and obtaining the necessary skills required for a mental health professional. Though students may feel alone in their impostor feelings, "research suggests that IP feelings are a normal part of graduate study" (Craddock, Birnbaum, Rodriguez, Cobb, & Zeeh, 2011, p. 11). Finding that 88% of this study's participants reported at least moderate feelings of IP, clearly, psychology graduate students who experience IP are not alone.

Although students can feel like impostors when they are in new environments, stressful situations, and conditions in which they feel insecure about their ability to display competence, it is important for them to acknowledge and discuss their experiences of the IP. Supportive training environments (school, practicum, and internship) can provide doctoral students with the opportunity to discuss their experiences of IP with professors, supervisors, and peers, and potentially help diminish these experiences and further normalize their experiences. Particularly, clinical supervisors are in a relevant position to explore feelings of IP as students are practicing under their licenses. Challenging cases should be discussed, including difficulties a student experienced and possible mistakes that were made. When these challenges are not explored during supervision, the student may risk increasing their feelings of IP as they seek to hide their imperfections and feelings of inadequacy.

Graduate students who acknowledged experiencing depression, anxiety, perfectionism, and IP, may tend to feel incompetent. The feelings may result in possible impairment in academic functioning, consequently negatively impacting their performance with their clients. If students notice a strain or rupture in the therapeutic alliance, they should seek assistance from their supervisors, professors, or a psychotherapist to gain insight into the relationship between their own mental health struggles and their ability to provide their best level of care for their clients.

It is imperative that training programs address students' experience of IP, thus providing students with the opportunity to become confident, competent clinicians. This can be achieved by requiring students to receive a certain amount of individual therapy hours to graduate from the program. In addition, to help mitigate feelings of the IP, advanced graduate students can act as mentors for incoming students. This would provide newer students with a safe environment to openly discuss their experiences of IP and promote a dialogue where students feel supported. Advanced graduate students can also share coping strategies that can be helpful to

reduce the IP experience, thus helping new students improve their own mental health, work quality, and overall well-being.

Although root factors of the IP may vary per student, to help them gain a better understanding of IP, discussions about early family dynamics, culture, attribution style, gender role stereotypes, as well as ongoing assessment of one's abilities and feelings of incompetence should be explored throughout the academic program during class, supervision, mentoring/advising sessions, or individual therapy. This increased awareness may provoke negative feelings that should be explored to improve the student's mental health well-being.

This study has raised the issue of the IP with the hope that these findings will provide faculty, supervisors, and clinical and counseling psychology doctoral students a snapshot into the factors that influence the IP, as well as suggestions to help reduce students' experiences of the IP. Based on the 88% of psychology graduate students who experience IP, it appears imperative that faculty and supervisors raise this issue with students to increase their confidence and decrease their mental health symptoms. As students feel more confident in their growing competency, they will be able to provide more effective services to the clients they serve.

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