

**RESEARCH PAPER****Role of Academic Integrity in the Relationship between Imposter Phenomenon and Mental Health among University Students****¹Saira Khalil*, ²Farah Aqil and ³Noor us Saba Jadoon**

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ABSTRACT

This study examines the relationship between the Imposter Phenomenon (IP), academic integrity, and mental health among university students, focusing on the potential mediating role of academic integrity. Using a sample of 441 students from Islamabad and Rawalpindi, the research employed the Clance Imposter Phenomenon Scale (CIPS), Academic Integrity Scale (AIS), and General Health Questionnaire (GHQ-12). Results showed that IP is significantly linked to poorer mental health, supporting the hypothesis that higher imposter tendencies lead to increased psychological distress. However, academic integrity neither predicted mental health nor mediated the relationship between IP and mental health. The study emphasizes the need for further research to explore other factors that may affect these relationships and develop interventions to support students experiencing IP and improve mental health outcomes.

Keywords: Academic Integrity, Imposter Phenomenon, Mental Health**Introduction**

Students are vital assets to a nation's progress, responsible for driving advancement and prosperity. Their education is crucial not only for personal development but also for societal growth, as they are future contributors, leaders, and innovators (Abdul Kalam, 1970; Ali et al., 2021). University students, particularly in Pakistan, are highly motivated and actively engaged in research and development. However, they face immense academic pressure to excel, which can lead to stress and feelings of inadequacy (Zhang, 2014).

The imposter phenomenon (IP), first described by Clance and Imes (1978), affects many students who attribute their achievements to external factors like luck rather than their abilities. This mindset can lead to mental health challenges, such as depression and anxiety, especially in competitive academic environments (Chrisman et al., 1995). IP is further linked to academic dishonesty, as students may resort to plagiarism or cheating to maintain the appearance of competence (Cutri, 2021).

Maintaining academic integrity, grounded in honesty and responsibility, is essential for both academic success and mental well-being. Institutions must provide support to help students navigate the pressures of higher education while upholding ethical standards, thereby promoting both academic integrity and mental health. Wilson and Cutri (2019) argue that academic institutions' emphasis on polished final products can lead students to experience feelings of inadequacy, particularly when navigating the complexities of academic writing. This gap between prior educational experiences and the demands of higher studies contributes to feelings of fraudulence, commonly known as the imposter phenomenon. Van de Velde et al. (2019) found that 50.6% of PhD students reported experiencing the imposter phenomenon, highlighting its prevalence among doctoral candidates. Wilson and Cutri (2019) also noted that novice academics often feel skeptical of

their achievements, leading to identity crises closely associated with the imposter phenomenon.

Cutri et al. (2021) introduced the IPAIR model, which links the imposter phenomenon with academic integrity violations, such as textual plagiarism, academic dishonesty, and research misconduct. These behaviors may arise from fear of being exposed as fraudulent. The model underscores the importance of maintaining academic integrity, which involves upholding values of honesty, fairness, and responsibility.

The COVID-19 pandemic intensified academic challenges, leading to increased reports of academic misconduct and heightened stress among students. A review by Eaton et al. (2023) found a negative association between academic integrity and mental health, with lower integrity linked to higher mental health disturbances. This highlights the need to further explore the relationship between the imposter phenomenon, academic integrity, and mental well-being among university students.

Literature Review

The transition to university often brings unfamiliar environments and challenges, which can contribute to distress and poor mental health. One significant factor associated with low self-esteem, increased stress, anxiety, and depression in students is the imposter phenomenon (IP). Studies show that IP is highly prevalent among university students, with many reporting feelings of being an imposter despite academic success (Fassl et al., 2020; Cisco, 2020). Research on nursing and medical students also reveals widespread IP, with many doubting their competence even as they near professional qualification (Christensen et al., 2016; Maqsood et al., 2018). The phenomenon is linked to negative mental health outcomes, including depression and anxiety, particularly in competitive academic settings (Villwock et al., 2016).

IP can significantly impact students' ability to recognize their achievements, leading to persistent self-doubt and anxiety. Studies have found that IP is correlated with negative psychological outcomes like depression, low self-esteem, and chronic stress (Rohrmann et al., 2016; Kumar & Jagacinski, 2006). Moreover, students experiencing IP may engage in procrastination and over-striving behaviors, further contributing to mental health issues (Bernard et al., 2002). The phenomenon's impact is not limited to anxiety; it may also contribute to other conditions, such as burnout or eating disorders (Cokley et al., 2013).

Academic integrity plays a crucial role in mitigating the negative effects of IP on mental health. Research suggests that adhering to academic integrity can help students feel more competent and reduce feelings of fraudulence (Korn et al., 2020). This is particularly important for graduate students, who may be more susceptible to IP. Maintaining academic integrity may foster a sense of authenticity and confidence, thereby promoting better mental well-being (Cutri et al., 2021). While more research is needed on how academic integrity mediates the relationship between IP and mental health, it is clear that fostering ethical academic behavior can have a protective effect on students' psychological well-being.

Hypotheses

The current study proposes the following hypotheses:

1. Imposter phenomenon has negative relation with mental health among university students.
2. Academic integrity has positive relation with mental health in university students.

- Academic integrity has mediating role between imposter phenomenon and students' mental health.

Conceptual Framework

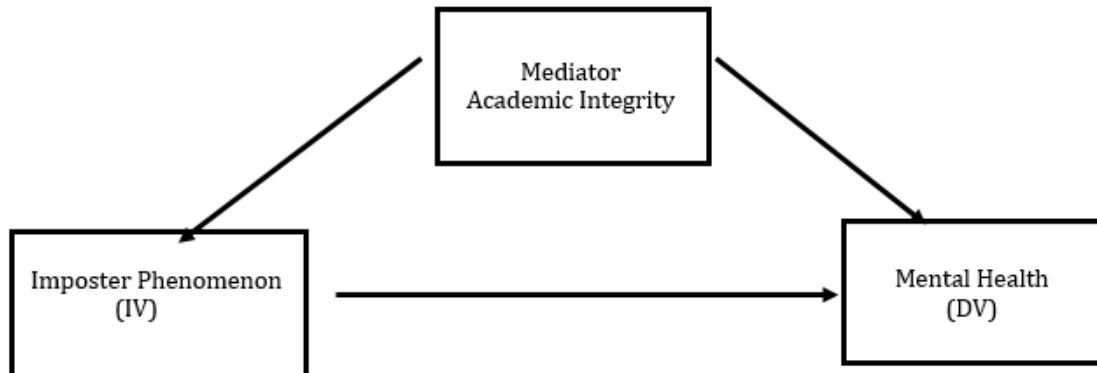


Figure 1 showing academic integrity as a mediator in the relationship between the imposter phenomenon and mental health.

Material and Methods

Instruments

Demographic Sheet. The demographic sheet was comprised of gender, age, education level, grade in previous semester, satisfaction with previous academic grade, previous academic writing experience and evaluation of past academic achievement.

Clance Imposter Phenomenon Scale. Clance (1985) developed the Clance Imposter Phenomenon Scale (CIPS), a 20-item measure using a five-point Likert scale to assess feelings and perceptions related to the imposter phenomenon. Scores range from 1 ('not at all true') to 5 ('very true'), with interpretations as follows: 40 or below indicates few imposter characteristics, 41-60 reflects moderate experiences, 61-80 suggests frequent feelings, and scores above 80 denote intense imposter phenomenon. Higher scores signify greater imposter feelings (Kananifar et al., 2015).

The CIPS was chosen for this study due to its reliable use among university students in prior research (Cozzarelli & Major, 1990; King & Cooley, 1995; Parkman, 2016). These studies consistently showed high internal consistency, with Cronbach's alpha values between .85 and .89. In this study, Cronbach's alpha was similarly robust ($\alpha = .83$), confirming its reliability.

General Health Questionnaire. The General Health Questionnaire (GHQ-12), created by Goldberg (2004), is a 12-item scale designed to screen for individuals at risk of developing psychiatric disorders. It assesses mental health issues like depression, anxiety, somatic symptoms, and social withdrawal. Items, such as "Have you recently been feeling unhappy and depressed?" are rated on a four-point Likert scale from 0 (not at all) to 3 (much more than usual). Higher scores reflect greater psychological distress and poorer mental health. Previous research has reported reliability coefficients ranging from .71 to .91, with a median of .86. In this study, Cronbach's alpha was .74, indicating strong internal consistency.

Academic Integrity Scale. The Academic Integrity Scale (AIS), developed by Zulmi Ramdani in 2018, is a 17-item scale with a strong reliability coefficient of 0.86. It measures academic integrity across five dimensions: honesty, fairness, respect, trust, and

responsibility. The scale uses a five-point Likert scale, where responses range from 1 (Very Inappropriate) to 5 (Very Appropriate). Higher scores on the AIS indicate a stronger level of academic integrity.

Procedure

Students from universities in Islamabad and Rawalpindi participated in the study through convenient sampling, completing questionnaires after providing informed consent. Statistical analysis was conducted using SPSS, along with the PROCESS macro, to examine the relationships between the imposter phenomenon, academic integrity, self-compassion, and mental health. Descriptive statistics were utilized, and hypothesis testing, including mediation analysis, was performed. The results were discussed in relation to previous literature, highlighting similarities, differences, and implications for future research.

Results

Table 1
Frequencies and Percentages of Demographic Variables of the Study (N=441)

Variables	Category	<i>f</i>	%
Gender	Male	210	48
	Female	231	52
Age group	Early adults (17-22)	219	50
	Young adults (23-28)	168	38
	Middle adults (29-34)	54	12
Grade in last year/semester	A grade	289	66
	B+/B grade	152	34
Previous grade satisfaction	Satisfied	190	43
	Not satisfied	251	57
Previous Academic Writing Experience	Yes	194	44
	No	247	56
Past academic achievement	Skills/ intelligence	79	18
	Hard work	124	28
	Chance/luck	198	45
	Underserved	40	09

Table 1 presents the frequency (*f*) and percentage (%) of the demographic variables in the current study, which included a sample of 441 university students. 48% students were male and 52% were female. 50% were early adults, 38% young adults and 12% were middle adults. 66% students secured A grade and 34% students have secured B/B+ grade in their previous semester. 43% students were satisfied with their grades and 57% were not satisfied with their previous grades. 18% of students perceive their previous academic grade was due to their skills/intelligence, 28% due to their hard work, 45% chance or luck and 9% underserved.

Table 2
Psychometric Properties of the Study Variables (N=441)

Variables	<i>k</i>	α	<i>M</i> (<i>SD</i>)	Range			
				Actual	Potential	Skewness	Kurtosis
Imposter Phenomenon	20	.83	60.27(12.56)	23-100	20-100	.053	.049
Academic Integrity	17	.86	65.95(9.90)	17-85	17-85	-1.13	2.356
Mental Health	12	.74	14.53(5.49)	3-33	0-36	.487	.137

Table 2 shows descriptive statistics and psychometric properties for the scales used in this study. The alpha reliability coefficient for the Imposter phenomenon is .83, Academic integrity is .86 and for mental health is .74. Alpha reliability coefficient values show that all

scales have acceptable level of alpha reliability (i.e., $\alpha > .50$). Values of mean and standard deviation are mentioned. Skewness and kurtosis values indicate that data is distributed normally within acceptable range i.e ± 2 .

Table 3
Correlation of Study Variables (N=441)

Variables	1	2	3
1. Imposter Phenomenon	-	.04	.23**
2. Academic Integrity	-	-	-.05
3. Mental Health	-	-	-

** $p < .01$

Table 3 shows that Imposter Phenomenon non-significant positively correlated with academic integrity. It further shows that Imposter Phenomenon is statistically significant positively correlated with Mental Health which means that higher scores in imposter phenomenon leads to higher scores in general health questionnaire and higher scores indicated lower mental health. Table further shows that academic integrity is non-significant negatively correlated with Mental Health.

Table 4
Multiple Regression Analysis Predicting Mental Health through Imposter Phenomenon and Academic Integrity (N=441)

Scales	B	SEB	β	t	P	LL-UL
Constant	8.49	1.25		6.78	.000	9.33, 20.35
Imposter Phenomenon	.84	.02	.22	4.93	.000	.04, .12
Academic Integrity	-.03	.02	-.05	1.15	.256	-.08, .02

Note. LL= Lower Limit; UL= Upper Limit

Table 4 shows the summary of regression analysis. It shows that Imposter Phenomenon accounted for 5% of variance in mental health and significantly predicts the mental health among university students. Moreover, academic integrity non-significantly predicts mental health and only accounted for .3% of variance in Mental Health among university students.

Table 5
Mediating effect of Academic Integrity between Imposter Phenomenon and Mental Health (N=441)

Predictors	Mental Health					
	Model	R ²	B	p	t	95% BaCI
1	Constant		63.60	.000	27.5	[59.06, 68.15]
	Imposter Phenomenon	.002	.038	.301	1.03	[-.03, .112]
2	Constant		10.97	.000	5.32	[6.92, 15.03]
	Imposter Phenomenon		.101	.000	5.00	[.061, .141]
	Academic Integrity	.574	-.039	.130	-1.51	[-.08, .011]

For step 1: F=1.07, For step 2: F= 13.34

Note: R²= Explained variance, BaCI= Biased corrected confidence interval

Results in table 5 showed mediating effect of academic integrity in relationship between imposter phenomenon and mental health. Model 1 indicated that the imposter phenomenon predicts mental health, $b = .038$, $t = 1.03$, $p = .031$, 95% BCa CI [-.03, .112], and gives .2% of its variation. The imposter phenomenon positively predicts mental health. The imposter phenomenon positively predicts academic integrity $b = -.039$, $t = -1.51$, $p = .130$, 95% BaCI [-.08, .011].

Model 2 showed the direct effect for the imposter phenomenon and academic integrity that has negative relationship with each other, on mental health, $b = .101$, $t = 5.00$, $p = .000$, 95% *BCa CI* [.061, .141]. The R^2 tells us that both imposter phenomenon and academic integrity explain 57% of the variation in mental health.

A comparative analysis of model 1 and 2 showed that the direct effect (path $c' = .101$) and total effect (path $c = .100$) both are almost equal and non-significant.

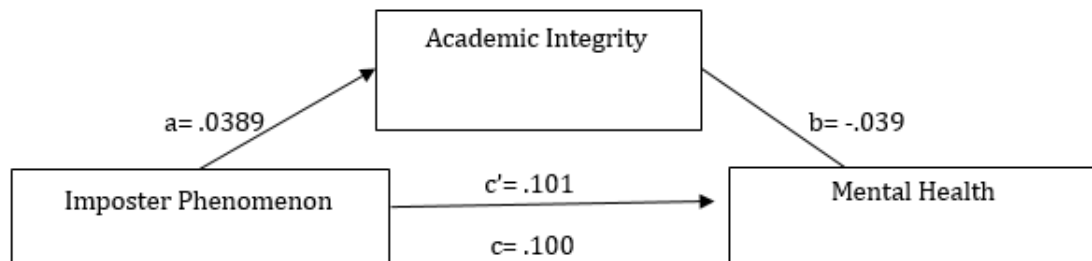


Figure 2: showing direct as well as indirect relation between imposter phenomenon and mental health.

Discussion

The imposter phenomenon is widely recognized as a common experience among exceptionally talented individuals. The main goal of this study was to explore the role of academic integrity as a mediator in the relationship between the imposter phenomenon and mental health among university students. The research employed the Clance Imposter Phenomenon Scale (CIPS) (Clance, 1985), the Academic Integrity Scale (AIS) (Zulmi, 2018), and the General Health Questionnaire (GHQ, 2004) to assess the interactions between these variables. Additionally, the study considered the effects of various demographic factors such as gender, age group, education level, grades from the previous year/semester, satisfaction with prior grades, academic writing experience, and perceptions of past academic performance on the key research variables.

The sample included 441 students, with 48% males and 52% females. Based on Daniel Levinson's theory, age groups were categorized into early adults (50%), young adults (38%), and middle adults (12%). Academically, 74% of participants were graduate students, while 26% were post-graduate students. In their previous semester, 66% of students received an A grade, and 34% obtained a B/B+ grade. When asked about satisfaction with their previous grades, 43% reported being satisfied, while 57% were not.

Students attributed their previous academic success to various factors: 18% credited their skills or intelligence, 28% their hard work, 45% attributed it to chance or luck, and 9% felt it was undeserved. Scores on the Imposter Phenomenon Scale were categorized based on standard scoring guidelines. Among the students, 7% exhibited few imposter characteristics, 46% had moderate tendencies, 42% frequently experienced the phenomenon, and 5% had severe imposter feelings (see Table 1).

Reliability checks showed that all scales had acceptable levels of internal consistency ($\alpha > .50$). The data followed a normal distribution as indicated by skewness and kurtosis analyses. Correlation analysis revealed that CIPS had a non-significant positive correlation with AIS, while a significant positive correlation was found between CIPS and GHQ, suggesting that higher imposter phenomenon scores were associated with poorer mental health. A non-significant negative correlation was observed between AIS and GHQ.

The first hypothesis proposed that the imposter phenomenon negatively affects mental health among university students. The correlation analysis supported this, showing a significant positive correlation between CIPS and GHQ, indicating that an increase in imposter feelings is associated with a decline in students' mental health (see Table 3). These findings align with previous studies, which suggest that individuals experiencing the imposter phenomenon tend to have poorer mental health (Cusack et al., 2013). Cokley (2013) also emphasized that the fear of being exposed as a fraud can lead to avoidance behaviors and procrastination, which in turn affect academic performance and exacerbate feelings of anxiety and self-doubt, ultimately harming mental health (Cokley et al., 2013; Wei et al., 2020).

The second hypothesis posited that academic integrity positively influences mental health among university students. The results indicated a non-significant negative correlation between academic integrity and mental health, implying that higher academic integrity scores are associated with better mental health, as reflected by lower scores on the GHQ (see Table 3). This finding aligns with earlier research suggesting that concerns related to academic integrity can amplify anxiety and stress. A negative relationship between academic integrity and mental health disturbances has also been noted in previous studies (Eaton et al., 2023), thus supporting the research hypothesis.

Following the recommendations of Cutri et al. (2021), the study hypothesized that academic integrity would mediate the relationship between the imposter phenomenon and mental health among graduate and post-graduate students. However, the results indicated that academic integrity did not significantly predict mental health, nor did it serve as a mediator between the imposter phenomenon and mental health (see Table 4). Academic integrity is crucial in the academic sphere, representing principles like honesty, trustworthiness, fairness, respect, and responsibility. Students' cultural backgrounds and prior learning experiences influence their ethical decision-making, shaping their understanding of what is ethical (Kwong et al., 2018). In this study, 56% of students had no prior academic writing experience, potentially explaining the non-significant association.

This research aimed to establish an initial connection between the imposter phenomenon, academic integrity, and mental health in university students, laying the groundwork for further research. Future studies are encouraged to explore cross-cultural, institutional, and individual factors that may influence these relationships, providing a more comprehensive understanding of the complex dynamics between the imposter phenomenon, academic integrity, and mental health. This call to action invites future researchers to expand the scope of inquiry and contribute to the development of a deeper understanding of these important topics.

Conclusion

In conclusion, this study sought to investigate the relationships between the imposter phenomenon, academic integrity, and mental health among university students, as well as the potential mediating role of academic integrity in these interactions. The findings revealed that the imposter phenomenon is significantly associated with poorer mental health, affirming previous research suggesting that individuals with higher imposter tendencies experience greater psychological distress. Although academic integrity was found to have a non-significant negative correlation with mental health, indicating that higher levels of academic integrity might contribute to improved mental health, it did not act as a mediator between the imposter phenomenon and mental health. These results suggest that while the imposter phenomenon directly impacts students' mental health, academic integrity plays a less prominent role in this dynamic, warranting further exploration. Demographic factors such as gender, education level, and academic performance also influenced the experience of the imposter phenomenon and mental

health, with female students and undergraduate students displaying higher levels of imposter tendencies.

This study serves as a foundation for future research, encouraging scholars to explore how cultural, institutional, and individual factors influence the relationship between the imposter phenomenon, academic integrity, and mental health. A deeper understanding of these relationships can inform the development of targeted interventions to support students struggling with the imposter phenomenon and improve their mental health and academic experiences..

Recommendations

- Sample size can be increased in future studies. And can also use other methods of sampling to collect more data from post graduate research students.
- A future study should employ longitudinal research design to investigate the roots of imposter phenomenon and its relation with students mental health which particularly suitable in capturing the nature of this phenomenon in a more comprehensive manner.
- Academic integrity training should be incorporated into student orientation and coursework, particularly for those with limited prior experience in academic writing.

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