Imposter Phenomenon and Self-Handicapping among Medical Students: Moderating Role of Self-Care

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ABSTRACT:
The present study aimed to investigate the relationship between the imposter phenomenon and self-handicapping behaviors among medical students (MBBS), with a focus on the moderating role of self-care. For this purpose, a sample of N=300 medical students (n=150 men and n=150 women) from private as well as government medical colleges of Islamabad, Rawalpindi, and Lahore were assessed, and the data was collected via demographic form and three questionnaires measuring the study variables. The Clance Impostor Phenomenon Scale (Clance, 1985), Self-Handicapping Scale (Kaur & Raji, 2022), and Self-Compassion Scale Short-form's subscale named self-care (Raes et al., 2011) were used to measure one of the study variables. Correlational analysis, as well as regression and moderation analyses, were performed in order to explore the relationships between the study variables. The statistical analysis revealed that the imposter phenomenon positively correlated with self-handicapping. The interaction effect of the imposter phenomenon and self-care on self-handicapping came out to be significant. The moderator graph showed that self-care weakened the relationship between the imposter phenomenon and self-handicapping. Moreover, the t-test findings revealed that female medical students scored higher on all the study variables except self-care than their male counterparts.

KEY WORDS:
Imposter Phenomenon, Self-handicapping, Medical Students, Self-Care

Introduction

Knowledge, these days, is growing at a faster pace; exclusively, the knowledge in medical colleges is mounting at a fast speed along with the increased difficulty level of the courses. Keeping in view the expansion in knowledge, increased pressure of the expectations of others and the difficulty level of the courses, and the pressure of being called a doctor, most medical students are prone to many common psychological problems, from anxiety and depression to complex psychological glitches which create an obstacle in the way of their success, academic as well as career and personal development. One such phenomenon that weakens students from the inside and puts hurdles in their way of success is the imposter phenomenon. Around 70% of people of both genders will be prone to experience the feeling of being an impostor once in a lifetime (Gravois, 2007).

A behavioral health phenomenon that involves a feeling of self-doubt, doubt of skills or achievements, common especially among high achieving individuals, is called the imposter phenomenon and is seen common among high achieving individuals, particularly those in medicine and health care (Huecker et al., 2023). Imposter thoughts are often characterized by victims using statements such as what if it is unveiled upon the other individuals that they are not as competent as others think about them, or often seem to have thoughts revolving around personal doubts such as they often perceive themselves as less smart than what others think about them (Sawant et al., 2023). There is no official diagnosis for this phenomenon, explained by DSM-5 or ICD-10, so it is not considered a psychiatric disorder, but according to psychologists, it is recognized as a special type of intellectual self-doubt (Weir, 2013).

Clance and Imes (1978) first observed and defined as a regular feeling of self-doubt, considering oneself as a fraud, especially in context to one's own academic or intellectual achievements, while working with over 150 successful and high-achieving Caucasian women aged 20–45 years, over the course of five years, in therapeutic settings with the conclusion that despite having accomplishments, they had a belief that their success is due to luck, attractiveness, charisma, or additional hard work and thus, they are not deserving of the rank or status. (Bernard et al., 2002). Thus, it is not a pathological disease but interferes with someone's psychological well-being; thus, it is intrinsically self-destructive or self-damaging (Ibrahim et al., 2022).

 It occurs in a cycle encompassing six characteristics varying from person to person, with at least two present in a person to be called an imposter (Sakulku & Alexander, 2011), which involves the imposter cycle that starts with the assignment of an achievement-related task, induces anxiety and fear, although task completion gives an initial sense of accomplishment, is overcome by either overpreparation or initial procrastination followed by preparation where good outcome is being attributed to either hard work or luck (Huecker et al., 2023). Then, the need to be very best as compared to others in larger academic settings was prompted by seeing many exceptional peers and developing a belief that they would be declared stupid when they were not best, although, at school, they had good academic progress. The third one is the superwoman/superman aspect, which refers to the perfectionist tendency, in which imposters are willing to do everything flawlessly.

Fear of failure leads them to overwork. The second last is neglecting accomplishment and undervaluing accolades in which individuals do not accept their success, ability, praise, or compliments on their accomplishments, discount positive feedback, find evidence, or develop arguments to prove themselves as not worthy to be praised. The last one in the cycle is the fear of success and guilt about it, in which they feel ashamed about being exceptional, as well as fear of being rejected by others. They also fear that their success may evoke in others around them higher demands and greater expectations because they are unsure if they will be able to keep performing at their present capacity next time, and they don't want to dedicate themselves to taking on additional responsibilities (Sakulku & Alexander, 2011). The imposter phenomenon may act as a psychological barrier in the way people's careers are structured (Clark & Vardeman, 2014) and is a personality trait (Sonnak & Towell, 2001). Research has shown that the imposter phenomenon can occur in a variety of contexts, including college students, academics, medical students, physician assistants, and marketing managers (Sakulku & Alexander, 2011).

Some of the factors that foster the impostor phenomenon include dread of evaluation, introversion, guilt about success, fear of failure, and overestimating others while underestimating oneself (Kaur & Jain, 2022). False and non-affirming family messages (Sawant et al., 2023). High-stress environments are often the cause (Parkman, 2016), and students achieving higher education are particularly susceptible to this phenomenon as they focus on the competitive nature of higher education (Wang et al., 2019). Family and competitive social environments may cause imposter phenomenon in students. Some families give the label of smart one to their children, who may feel burdened to live up to the label (Harvey & Katz, 1985). Anxiety and depressive symptoms accompany increased levels of imposter syndrome (Qureshi et al., 2017), in addition to aberrant perfection (perfectionism), inadequate work output, low job satisfaction, and poorer corporate citizenship (Vergauwe et al., 2015), lack of confidence, low

levels of self-esteem and a labile self-concept (Gibson & Schwartz, 2008). Although being seen as more competent by teachers, colleagues, relatives, and society perceive them which in turn, has a deteriorated impact on mind, body, and personalities as well as academic and professional development (Qureshi et al., 2017), thus negatively impacting academic and career development (Urdan, 2004). Students in college who experience the imposter phenomenon might additionally exhibit symptoms like those of moderate depression (McGregor et al., 2008).

A considerable association exists between the imposter phenomenon and self-handicapping (Cowman & Ferrari, 2002; Simpson, 2015) for the impostors are fearful of being negatively judged, strive for appreciation and social acceptance, and avoid negative judgments (Ferrari & Thompson, 2006), followed by being unable to fully relish their accomplishments due to the fear failing in the future, they usually resort to self-handicapping as a mal-adaptive coping mechanism to escape unfavorable assessments (Jensen & Deemer, 2020). So, it is concluded that the imposter phenomenon leads to self-handicapping.

Self-handicapping refers to the process in which individuals, under specific conditions and with certain personality factors, hamper their success by self-induced impediments in important performance situations (Jensen & Deemer, 2020). The notion by (Berglas & Jones, 1978) defined self-handicapping as any form of decision or behavior in a performance arena that upsurges the chance to externalize or justify failure and internalize success, i.e., properly taking credit for it. Emerging as a big obstacle, it carries a lot of bad implications for one's mental and physical health as well as for one's school career (Barutcu & Dimer, 2020). An example of self-handicapping is when some students, anticipating the likelihood of confronting failure, display such behaviors as lessening their efforts, sparing a lesser amount of time to study, or delaying the process of preparing for a lesson so that, at the moment of judgment, they may allocate their academic failures to these behaviors rather than to their own skills (Cavendish, 2005). It has, thus, been theorized that those individuals who self-handicap do not intend to encounter failure, but with an exaggerated probability of failure, they find it acceptable to be explained by external circumstances. Due to this reason, self-handicapping has a tendency to occur before an actual performance, eventually setting a foundation for exterior ascriptions (Urdan & Midgley, 2001).

Avoiding global failure is more crucial to self-handicappers (Warner & Moore, 2004). Confident people are less likely to use this phenomenon; those who are uncertain about why they did well in a task have a higher tendency to self-handicap (Carlisle, 2015) to protect self-esteem and keep a positive mood (Zuckerman & Tsai, 2005).

Some antecedents of self-handicapping include uncertainty about one's ability, anticipation of a threat to one's self-esteem, self-presentational concerns (Barutçu & Dimer, 2020), expectations regarding others' success, the other-focus/self-focus view (Kimble & Hirt, 2005), various forms of feedback (Brown & Kimble, 2009), task importance, and the presence of an environmental handicap prior to the task assignment (Barutçu & Dimer, 2020). It's also a tactic to manage impressions (Carlisle, 2015), i.e., to protect and retain an image of competence in others' eyes. The situations involving the ability-testing process may foster self-handicapping behavior (Adil et al., 2020), where choosing obstacles blurs the link between their performance and abilities (Jenson & Deemer, 2020). This behavior is associated with the imposter phenomenon because the victims doubt their skills and are not willing for their low capacity to be discovered, which tends them to self-handicap, thus exhibiting the traits of the imposter phenomenon (Mehta et al., 2020). Scholars have investigated the idea of self-handicapping in a variety of performance contexts, social interactions (Carlisle, 2015), and the workplace (Martinko et al., 2003) around several psychological constructs, including personality (Ross et al., 2002).

Educational settings often involve tasks to test the competence as well as the ability of students where they find their projected self-image at stake in the eyes of others, which they are required to preserve by using self-handicapping (Adil et al., 2020). Self-handicapping is intentional (Urdan, 2004). The two categories of self-handicapping described by (Jones & Berglas, 1978) are behavioral self-handicapping, where when people choose behaviors that decrease the possibility of success (Carlisle, 2015), such as drugs choosing improbable tasks and

interruption exercise efforts (Sultan & Kanwal, 2014), sleeping insufficiently choosing intrusions, listening to music that interferes with performance and before an important exam, hang around late at night (Barutçu & Dimer, 2020), and claimed self-handicapping elaborated by Carlisle (2015), where, verbal justifications to failures are provided, such as they were ill, or nervous (Sultan & Kanwal, 2014)) but not actually getting engaged in a self-handicapped behavior (Carlisle, 2015) as well as reports of anxiety, stress, depression, adverse circumstances, hypochondriasis, social anxiety, shyness, traumatic life events (Barutçu & Dimer, 2020). A third type is habitual self-handicapping (Zuckerman & Tsai, 2005), which constitutes a combination of two beliefs, i.e., competence cannot be increased and the doubt in a person's own competence (Zuckerman & Tsai, 2005) which involves a person becoming used to create opportunities to minimize the prospect of failure via providing helpful clarification (Brown & Kimble, 2009) thus, helping to maintain positive self-evaluation (Hirt et al., 2000). Self-handicapping in the long run is costly (Barutçu & Dimer, 2020), hampering personal growth (Fouzia et al., 2023). A recurrent use of self-handicapping leads to decreased competence, no inner motivation, poor health and well-being, and persistent negative moods (Zukerman & Tsai, 2005). Higher degrees of anxiety, despair, and stress are experienced by high self-handicappers (Sahranç, 2011), lower intrinsic motivation, and more automatic negative thoughts (Kapıkıran, 2012).

Self-care, a component of self-compassion, has become a widespread impression in the psychological literature now, involving being caring to oneself when difficulty arises; it manifests itself by an individual holding negative feelings/circumstances in an awareness that is combined with kindness as well as a sense of shared humanity (Wei et al., 2011). Self-care is defined as a set of activities and strategies (Godfrey et al., 2011), professional development, health behaviors, work-life balance (Dorociak et al., 2017), and professional support that helps to improve mental as well as physical health (Godfrey et al., 2011). It encompasses three traits or dimensions: self-kindness, shared humanity, and awareness (Neff, 2003). Self-kindness is an upright mindset consisting of being capable of being supportive and sympathetic to oneself when tackling a difficult life. Communal humanity is a conviction that all people are susceptible and defective and that suffering or sorrow is a natural and universal element of the human experience and not a personal affliction. Mindfulness means to live in the present moment, a trait related to having the capacity to recognize challenging occurrences and painful sensations in the present moment and to not ignore, suppress, or exaggerate those. Creating a certain amount of time for oneself is a process when a person can be known to be practicing self-care (Patsiopoulos & Buchana, 2011). It is any activity that contributes to refilling as well as refueling oneself in ways that are considered healthy (Gentry, 2002). If we have to remain effective in our role and avoid conditions such as burnout, self-care is a practice that proves to be essential. Thus, practicing self-care makes a person rejuvenated, refreshed and recharged in terms of their minds, bodies, and souls (Coaston, 2017). It is also known as positive self-compassion and is positively associated with healthy functioning in addition to adaptive coping, while negatively associated with anxiety, depression, and maladaptive coping mechanisms (Sirois et al., 2015). Those who suffer from the imposter phenomenon are judgmental and critical of themselves and have Superman/superwoman aspects. Their concession of praise reflects their lack of self-kindness. Their desire to be special, where they feel imperfect and have a fear of failure and achievement, indicates a lack of shared humanity. It is also noteworthy that imposter phenomenon sufferers further magnify the negative components of themselves that trap them in an imposter loop. Given these attributes and the definition of self-care (positive self-compassion) itself, the construct seems to be a fortunate resilient element against the impostor phenomenon (Patzak et al., 2017). When people compare themselves more with other people, they indulge in self-handicapping. Thus, people having high self-care (positive self-compassion) have a tendency to use these strategies less as compared to those having (self-disparagement) negative self-compassion. In short, self-care delivers a substitute frame where all humans are fallible; they make mistakes and encounter shortcomings and challenging times, which are all a part of life; thus, self-caring people would not experience the imposter phenomenon and thus do not see themselves indulged in self-handicapping.

Simpson (2015) inspected the impact of the imposter phenomenon and task difficulty on the possibility of self-handicap. He took a sample of a total of 200, which was reduced to 150 participants from the United States with an average age of 35.11 years. The measures accessed the imposter phenomenon and the tendencies to self-handicap. The results showed that the imposter phenomenon and self-handicapping were positively linked to each other by using Pearson-product moment correlation, but the likelihood of self-handicap was not associated with the task difficulty, i.e., the task difficulty didn't act as a moderator. Overall, the results were consistent with the hypothesis that the imposter phenomenon and self-handicapping are positively correlated and where, according to him, when a person develops self-doubts as well as doubt on his accomplishments, he would be more prospective to get himself engaged in a behavior of self-handicapping before being evaluated.

Qureshi et al., (2017) conducted research in order to determine the incidence of imposter syndrome among Pakistani medical students in Lahore's private medical college, constituting a total of 150 MBBS final-year students. The research was cross-sectional descriptive research. Convenient non-probability sampling was used to carry out the study, and an eight-item questionnaire was used as the study tool. If a student answered "yes" to five or more of the eight questions, they were considered to be positive for impostor syndrome. A questionnaire called the Young Impostor Scale (YIS) was used, and it was determined that sixty-eight (68) students (47.5%) had impostor syndrome. 45 (53.5%) of them were women, and 23 (38.9%) were males. Statistical analysis was done through SPSS version 20 software. It was concluded that medical students were experiencing imposter phenomena at notable rates and numbers.

Fouzia et al., (2023) directed a study that set out to explore the effects of defensive pessimism and self-handicapping on goal orientation in adolescents from Sialkot, Pakistan, including adolescents between the ages of 13-19 with different socioeconomic backgrounds, studying in different schools and colleges. A purposive sampling strategy was used to get a sample of 215 pupils. The variables were measured by the Self-Handicapping Scale, the Defensive Pessimism Scale, and the Goal Orientation Scale. The statistical analysis was conducted using SPSS version 25. Pearson's correlation coefficient, *t*-test, and multiple regression analysis were employed to assess the outcomes and test the hypothesis. The hypothesis stating that self-handicapping and defensive pessimism significantly predicted goal orientation among adolescents was accepted.

Pereira et al., 2023 conducted a study to investigate the moderating role of self-care in personal care aides of older adults during the COVID-19 pandemic. This cross-sectional study was intended to scrutinize the relationships as well as the involvement of psychological and sociodemographic variables toward quality of life, followed by contributing the moderating role of self-care. The total population was 127 formal caregivers who agreed to participate and were recruited from Portugal, who were evaluated on depression, anxiety, and stress scales, professional self-care scales, quality of life, COVID-19 traumatic stress, and preventive COVID-19 infection behaviors. The study practiced a cross-sectional research design. Data was collected in a face-to-face format and constituted the caregivers from the five private institutions of social solidarity as well as the nursing homes from a district in the north of Portugal. The results showed that self-care came out to be positively associated with quality of life and also seemed to have moderated the relationship between distress and quality of life.

Achievement goal theory proposed (Dweck & Elliot, 1999) all the three variables of the study, gained popularity prominently during the 1980s and 1990s, has emerged as one of the most supported theories in educational psychology (Maehr & Zusho, 2009). This theory states that in order for a person to achieve a goal, motivation depends upon their goal orientation, which can be either mastery or performance goals (Kumar & Jagacinski, 2006). Keeping in view the achievement contexts, people are usually willing to develop competence, or they tend to avoid validation of incompetence. If, for an individual, competence is expounded in self-referent terms, then the goal of the person will be on understanding and learning of the task, i.e., mastery goals stated as a task goal or task-involving also known as learning goal. In divergence from this type of goal, others may measure competence according to normative criteria and one's sense of competence, which is obtained by outperforming others. The goal

adopted in such situations is known as an ability approach goal, also stated as an ego-involving goal or a performance goal. With this goal, effort and performance are executed to surmise the ability. Thus, high efforts are usually implemented when individuals believe they have low ability at the same time. The theory of achievement goals has undergone modifications that propose the existence of another goal known as an ability-avoid goal. Ability-avoid goals are defined in terms of avoiding failure relative to others, just like ability-approach goals, which typically involve a standardizing concept of ability (Kumar & Jagacinski, 2006). As Elliot (1999) said, these types of goals are usually adopted by people when they have a dread of failure. As ability-avoid goals are linked to numerous undesirable consequences such as low self-efficacy, poor performance, and negative effects on learning tasks (Elliot & Church, 1997), imposters are usually those who are very much concerned comparing their ability with others, so they are likely to implement either approach or avoid.

Ability-avoid goals are adopted by those who have a dread of being exposed as frauds as imposters do. Ability-approach goals are acquired from both dread of failure reasons and achievement. Thus, it is concluded that imposters are highly bound to stick to ability goals, both avoid goals and approach goals and stick less to task goals (Kumar & Jagacinski, 2006). In other words, imposters doubt their intelligence, despite having past achievements, with a recurrent fear of being exposed as a fraud, they adopt an ability approach or ability to avoid goals. Those who self-handicap also get themselves involved in goals, such as by having the ability to avoid goals. Self-handicappers are also bound to protect their self-esteem and have a fear of encountering failure, so they adopt such goals where competence has no value and where they can attribute failure to external or internal circumstances. By avoiding ability goals, they want to conceal their incompetence. On the other hand, people who have self-care want to improve their being by learning skills. They want to grow. They are not intended to hide their flaws or outperform others. Such people pay heed to their own growth and learning; thus, they stick to mastery goals that contribute towards their learning and academic progress.

The prevalence of the imposter phenomenon, according to the systematic review of 62 studies, is 9% to 82%, involving 14161 participants. (Bravata et al., 2020). The higher education level, especially medical colleges, poses a highly competitive environment for students, accompanied by some students living far away from their homes, changing the environment, and having a lot of expectations from their surroundings and future goals. (Imran et al., 2016). These can, together, contribute to a person doubting his own intellectual abilities, followed by believing that they are not as competent as other people around him. They are thus prone to suffer from the imposter phenomenon. In educational settings, commonly, students are tested with assignments and are posed under circumstances where they dread failing an upcoming test or exam over and over again. This dread hampers their confidence. Where in order to protect their self-worth, self-handicapping is a strategy being used, but frequently getting one engaged in self-handicapping techniques results in decreased competence, lack of inner motivation, recurrently negative moods and symptoms, poor health, and substance usage (Zukerman & Tsai, 2005). In contemporary culture, children are always expected to do well in comparison to their classmates. Pupils acquire the abilities necessary to outperform others in order to satisfy the criteria. They place greater emphasis on seeming knowledgeable. When students do poorly, they tend to blame outside forces for their shortcomings and begin inventing justifications for their shortcomings (Saddiqua & Loona, 2021).

These excuses, either verbal or behavioral, are self-handicapping strategies. The aim of this study is to shed light on the imposter phenomenon and why and how cultural aspects and backgrounds of medical colleges are gradually playing a part in throwing students to such a bleak well that hampers their future learning. Also, self-handicapping, being a maladaptive coping mechanism, is consciously or unconsciously used by many students since initial levels of schooling due to again the cultural facts where students are often compared with each other and they end up outperforming each other, and somehow, they learn to protect their image of competency by fabricating excuses which protect their self-esteem and reputation in the eyes of others, which would be unveiled by this research. The students enrolled in the MBBS program are taken as the sample of the current research. The

reason is that knowledge in medical colleges is expanding day by day. According to an estimate, in the 1950s, it took fifty years for medical understanding to grow to this level. It was determined in 2010 to increase it after 3.5 years, and by 2020, the amount of time that could be added would only be 73 days (Villwock et al., 2016). When such an expansion occurs at such a rapid rate, it makes students feel more pressure to meet their standards as well as the standards to meet the expectations of people around and the tag of being called a doctor. When there is such pressure, students would feel fake when others would call them doctors. Medical students are always alleged to be high achievers, which keeps them under constant pressure and stress (Tang & Fisher, 2012). According to a study held in Pakistan, the imposter phenomenon was seen in notable frequencies among medical students (Qureshi et al., 2017). Also, there is so much hype in Pakistani culture to secure a seat for MBBS rather than other medical fields. All the students are selected through trial filters, and almost all the students chosen for this 5 years program are competent students of their college. Thus, it is possible that in such a pressurized environment, around and among all the competent students with so much competition, it is impossible not to face any psychological challenge. So, the purpose of taking the sample of medical students is to explore how the competitive environment and the expectations of others are entertaining imposter phenomena among them and how they can end up developing a self-handicapping strategy study was carried out at Nishtar Medical University in Multan suggested that an astonishing 97% respondents were experiencing impostor phenomenon (Maqsood et al., 2018).

Another aim of this research is that in Pakistan, although few researchers have discussed the imposter phenomenon and self-handicapping individually, none of them have explored the connection between these two constructs. Thus, this study will provide the basis for comprehending the relationship between the two constructs in the context of Pakistan. Self-care, another variable of the research, is a healthy coping strategy. The purpose of using this in the present study is that by fostering self-compassion, medical college students may develop resilience against the negative impacts of impostor phenomenon and self-handicapping. This study will unveil how self-care mitigates the relationships between the impostor phenomenon and self-handicapping, for none of the past studies talked about the relationship between the three variables together. So, the research is the first research in Pakistan to build a relationship between all three variables. Thus, we hypothesized that:

1.   There will be a positive predictive relationship between the imposter phenomenon and self-handicapping.
2.   Self-care will moderate the relationship between the imposter phenomenon and self-handicapping.

Figure 1
Conceptual Framework of the Present Study
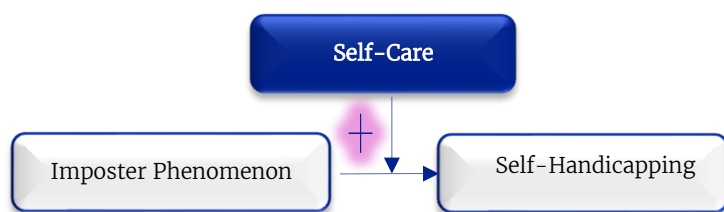
Method
Research Design
A correlational cross-sectional research design was used for the research purposes, followed by a survey research method, which would help identify links between the variables.

Sample
The purposive sampling technique was used in the study with a sample of $N = 300$ MBBS students ($n=150$ men, $n=150$ women), and the age range was 18-25 years. Different private and government medical colleges across

Rawalpindi, Islamabad, and Lahore were visited to approach the targeted participants. The data was collected using questionnaire measures and through Google Forms.

Inclusion Criteria of the Sample

1. Participants who were enrolled in 5 5-year MBBS programs, both men and women. were encompassed in the current study, while those who were enrolled in medical programs other than MBBS, such as BDS, DPT, DVM, etc., or any other medical program were excluded.
2. Those participants who were willing to be a part of the research were included, followed by taking informed consent, while those who filled half were excluded.
3. The participants from both the private as well as government medical colleges of only Islamabad, Rawalpindi, and Lahore were included to be a part of the study and not from other cities.

Instruments

The Clance Imposter Phenomenon Scale (CIPS)

The Clance Imposter Phenomenon Scale was used to measure the imposter phenomenon among medical students. It was developed by Clance (1985) and consists of 20 items, measuring such feelings as fear of evaluation, fear of failure despite previous success, and attributions to luck. The questions were rated to 5onoa 5-pointert type scale where the response rate, aduwas sted from 1 (not at all true) to 4 (very true), with sample items (*I avoid evaluations if possible)*, an, (*I can give the impression that I am more competent than I really am*). Scores from the scale confirmed estimated good internal consistency, i.e., Cronbach's alpha value =.92 (Chrisman et al., 1995).

Self-Handicapping Scale

The Self-Handicapping Scale, Indian context, was used to measure the level of self-handicapping among medical students. This 12-item scale is a modified Indian version of the original Self-Handicapping Scale which was a 37-item scale (Rhodewalt, 1990). It is comprised of two dimensions: Claimed and behavioral self-handicapping, with items no. 2, 5, and 6 indicating claimed self-handicapping and the rest indicating behavioral handicapping. It is a 5-point Likert scale where scoring ranges from 0 (Strongly Disagree) to 4 (Strongly agree). The items include (*when I do something wrong, my first intention is to blame the circumstances*), and *fear of making mistakes and trauma in early childhood, which are the internal factors that influence my performance*). The coefficient alpha value for the scale is, i.e., α=0.779.

Self-Compassion Scale-Short Form (SCS-SF)

The Self-Compassion Scale Short Form (SCS-SF) was employed to assess self-care among medical students. It consists of two subscales: self-disparagement and and self-care The self-care subscale (items 2, 3, 5, 6, 7, 10) covers dimensions of self-kindness (items 2, 6), common humanity (items 5, 10), and mindfulness (items 3, 7), was used to measure self-care. Self-care reflects how individuals demonstrate compassion towards themselves, involving qualities such as patience, tenderness, and empathy. Sample items from the scale include (*When something upsets me, I try to keep my emotions in balance*). The scale demonstrates strong internal consistency, i.e., Cronbach's alpha ≥ 0.86 (Raes et al., 2011).

Procedure and Ethical Considerations

After getting the research topic approved by the ethical committee of the Psychology Department, Rawalpindi Women's University was granted permission for data collection; the process of data collection started following the quantitative research method. Survey questionnaires were provided to the participants so they could complete the measures. The sample was assessed visiting several medical schools and universities in Pakistan's twin cities i.e., Islamabad and Rawalpindi, both public and private as well as a sample of students was also assessed from the

medical colleges of Lahore through google forms. The completed questionnaire was collected from the participants. Prior to asking the participants to fill out the questionnaire or be part of the research, informed consent was taken from them, followed by entertaining them with instructions or brief information about the study. To ensure their privacy, the participants were guaranteed that their data would be kept confidential along with maintaining their privacy.

Results

The data were entered in IBM-SPSS (version 21), and different statistical analyses were performed on it to test the proposed hypotheses. After analysis, results were compiled and discussed. Table 1 shows the psychometric properties of the scales that are used in this study. The Cronbach's α value for all the scales came out to be satisfactory. The values of skewness and kurtosis of all data are within the acceptable ranges for the univariate normality. Table 2 shows that there is a significant positive correlation between the imposter phenomenon and self-handicapping. A significant negative correlation can also be seen between the imposter phenomenon and self-care, as well as self-handicapping and self-care. Table 3 illustrates the impact of the imposter phenomenon and self-care on self-handicapping behaviors among participants. The findings reveal that the imposter phenomenon significantly and positively predicts self-handicapping, indicating that higher levels of imposter feelings were associated with greater self-handicapping behaviors. Conversely, self-care is a significant negative predictor of self-handicapping, indicating that higher levels of self-care are associated with lower levels of self-handicapping. These results underscore the significant roles of imposter feelings and self-care facets in influencing self-handicapping behaviors.

Table 1

Psychometric Properties of the Scales in the Present Study (N = 300)

Scales	M	SD	Range	Cronbach's α	Skewness	Kurtosis
CIPS	61.47	13.35	25-94	.85	.14	-.51
SHS	26.05	6.99	2-42	.70	-.09	-.42
SCS-SF-SC	19.22	5.10	9-30	.73	.01	-1.03

Note: CIPS= Clance imposter phenomenon scale, SHS=self-handicapping scale, SCS-SF-SC=self-compassion scale short form subscale, self-care

Table 2

Pearson Correlation among Study Variables

Variables	1	2	3
1-IP	-	.509**	-.318**
2-SH		-	-.252**
3-SC			-

Note. IP=imposter phenomenon, SH=self-handicapping, SC=self-care,
*p<0.5, **p <.01

Table 3

Regression Coefficients of Imposter Phenomenon and Self-Care on Self-Handicapping (N= 300)

Variables	B	SE	t	p	95% CI
Constant	9.60	2.52	3.80	.000	(4.63, 14.58)
IP	.16	.03	5.19	.000	(.10, .22)
SC	-.14	.07	-2.04	.041	(-.29, -.006)

Note: IP=imposter phenomenon, SH=self-handicapping, SC=self-care

Table 4

Self-Care as a Moderator of the Direct Effects of Imposter Phenomenon and Self-Handicapping(N = 300)

Predictors	Self-Handicapping		95% CL	
	β	SE	LL	UL
Constant	0.56	6.36	-11.9	13.0
IP	0.45***	0.09	0.26	0.65
Self-Care	0.56	0.33	-0.08	1.21
IP*SC	-0.01*	0.005	-0.02	-0.00
Conditional Direct Effects				
Low	0.29***	.03	.22	.35
Medium	0.23***	.02	.17	.28
High	0.17**	.04	.08	.26
R^2	0.28			
F	38.3***			

Note: IP=imposter phenomenon, SC=self-care, CI = Confidence interval, LL= Lower limit, UL = Upper limit.
*$p<.05$, **$p<.01$, ***$p<.001$.

Figure 1

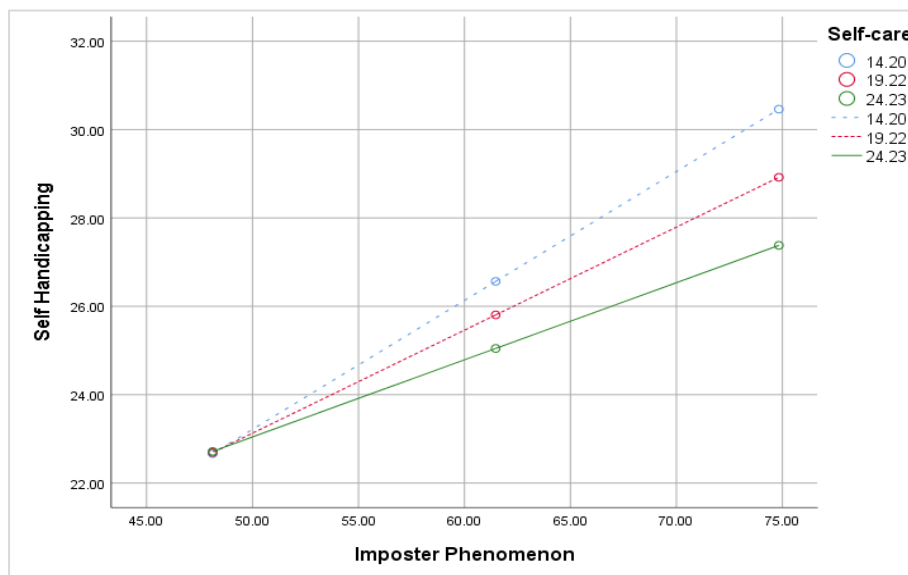*Self-Care as Moderator between Imposter Phenomenon and Self-Handicapping*

Table 4 illustrates the direct effects of self-care as moderator of imposter phenomenon and self-handicapping. The moderation analysis was performed by using Model 1. The interaction effect of the imposter phenomenon and self-care on self-handicapping appeared to be significant. Therefore, the conditional direct effects of self-care were computed, which are further clarified by a moderating graph, which shows that the direct positive effect of the imposter phenomenon on self-handicapping is weakened by self-care. The conditional direct effect of the imposter phenomenon is higher on the low level of self-care (*B*=0.29, *p*<.001), and it gradually decreases and remains significant as the level of moderator increases.

Discussions

The purpose of carrying out this study was to investigate the relationship between the imposter phenomenon, self-handicapping, and self-care among medical students.

The first hypothesis stated that there will be a positive relationship between imposter phenomenon and self-handicapping among medical students. Thus, a significant positive correlation turned out to be existing between imposter phenomenon and self-handicapping which means that our first hypothesis, i.e., H1 was accepted. This implies that those students who had intellectual self-doubt, i.e., imposter phenomenon/syndrome, were more prone to engage in maladaptive strategies, i.e., self-handicapping. This hypothesis was consistent with the result of previous research too, i.e., the study carried out by Simpson (2015), who inspected the impact of the imposter phenomenon and task difficulty on the possibility of self-handicap among citizens of the USA, and the result indicated that imposter phenomenon and self-handicapping were positively correlated. The study also showed that the imposter phenomenon was a predictor of self-handicapping, which is consistent with the current study that showed the imposter phenomenon as a predictor of self-handicapping. A recent study also supported the 1st hypothesis of the current study. (Tumminia, 2023) led a study to determine the relationship between impostorism, the use of overworking strategies, and withdrawing strategies, i.e., handicapping, explored among a group of university students with professional experience. The result of this study was consistent with the current study. In this study, the imposter phenomenon was also shown as a positive predictor of self-handicapping. Another study supporting this hypothesis was carried out by Want and Kleitman (2006), who conducted a study to inspect how parental rearing styles and objective confidence are linked to the impostor phenomenon and self-handicapping tendencies, with broad aim to investigate the association of imposter phenomenon with self-handicapping. The results showed a significant relationship between self-handicapping and impostorism. Self-handicapping positively correlated with feelings of impostorism. The strongest predictor of self-handicapping was impostor feelings.

The second hypothesis stated that self-care would moderate the relationship between the imposter phenomenon and self-handicapping was also supported, i.e., H2 was accepted. It means that when self-care appears to occur among individuals, i.e., they treat themselves with care instead of being self-critical and judgmental, the prevalence of certain psychological challenges is significantly reduced. The same was the case with this study. The presence of self-care weakened the relationship between the imposter phenomenon and self-handicapping. The moderating role of self-care is also supported by previous studies. A study conducted by (Ayala et al., 2018) was conducted to check how self-care among US medical students tends to result in them reporting less stress and a higher quality of life. It was hypothesized that, in medical students, self-care would moderate the relationship between stress and psychological quality of life, as well as stress and physical quality of life. The results showed that with the increase in reported engagement in self-care, there occurred a weak inverse relationship between perceived stress and both physical and psychological quality of life; thus, self-care moderated the relationship.

Limitations and Suggestions

The current study used self-reported measures, which might have been manipulated with certain biases. The students might also have under or over-reported their feelings. Survey method research design was used to collect data so there would be no control over the extraneous variables, i.e. academic burden. Self-reported Likert-type measures might not have fully captured the feelings of the respondents. The study revolved around the MBBS students, and data was collected from the twin cities of Islamabad and Rawalpindi as well as the medical colleges of Lahore, which lowers the generalizability of the findings. Google forms were also used, which might not confirm the authenticity of the results. Lastly, the study lacks a firm base of previous indigenous researches so the relationship among the variables was understood by conceptual methods.

The suggestions this study generates are: future researches should use mixed-method approaches i.e., longitudinal studies and experimental research designs as well as both quantitative and qualitative research design such as focus group research, in-depth interviews and use inclusive research, i.e., include all the medical students i.e., nursing, dentistry, pharma to gain a deeper insight into participants' feelings. They should keep into account

other variables such as psychological barriers that are fostering imposter phenomenon among medical students. They should include medical students from various cities to get the true findings. They should avoid using Google forms so as not to get their results manipulated.

Implications of the Study

The study would provide a basis to medical colleges to take initiatives like awareness campaigns, workshops, and counseling services tailored to identify and mitigate the issues of imposter phenomenon and self-handicapping and take steps to help students navigate feelings of inadequacy and reduce self-handicapping behaviors. Furthermore, the study helps them acknowledge that the critical role of self-care is paramount and encourage practices that foster self-care among medical students—such as mindfulness training, resilience-building workshops, and the establishment of peer support networks—that would significantly enhance their capacity to effectively manage stress and meet the demanding academic challenges by cultivating a more resilient and supportive learning environment within Pakistani medical colleges. The study can spread awareness in medical colleges to encourage students to seek professional help whenever they feel imposter. The study would specifically help private medical colleges take steps to reduce academic stress.

Conclusion

The current study explained the relationship between the phenomenon of imposters, self-handicapping, and self-care among medical students. The results of the study showed that the imposter phenomenon positively correlated and predicted self-handicapping among medical students. The moderation analysis revealed that the interaction effect of the imposter phenomenon and self-care on self-handicapping came out to be significant. It was also concluded that the positive relationship between the imposter phenomenon and self-handicapping was weakened by self-care.

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