



The Relationship Between Impostor Phenomenon, Growth Mindset, Perceived Social Support and Academic Burnout in Bachelor of Medicine and Bachelor of Surgery (MBBS) Students Across Maharashtra.

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Abstract: *The study of medicine is considered to be one of the most laborious, yet gratifying routes of academics, several students, every year, clear a very demanding entrance test and enter medical school. While undergraduates study tirelessly for the prefix 'Dr', there are several mental health issues that might come into play. While considering these difficulties it is also pivotal to address the variable that might come in as protective factors. Hence, the present study aims to identify the association between impostor phenomenon, academic burnout, growth mindset, and perceived social support in MBBS students across Maharashtra. For the purpose of data collection the tools used were Clance Impostor Phenomenon scale by Clance, Dweck Mindset Instrument by Dweck The MultiDimensional Scale of Perceived Social Support by Zimet, Oldenburg Burnout Inventory by Reis and colleagues. To verify the hypotheses of the study, statistical analyses used were descriptive statistics, simple correlation, and linear regression was used. The results suggested that there was a significant correlation between academic burnout and all the three variables. The linear regression suggested that academic burnout could be predicted by criterion variables, impostor phenomenon, growth mindset and perceived social support.*

Key Words: *MBBS, Impostor phenomenon, growth mindset, perceived social support, academic burnout.*

1. INTRODUCTION:

It is widely accepted that the field of medicine is one of the most challenging and strenuous professions globally. This field not only brings with itself a great sense of responsibility, perfectionist standards and a certain level of self-satisfaction, but also a great deal of emotional and physical strain. It is now a known fact that apart from intellectual capabilities, this field demands emotional and psychological resourcefulness. Long posting hours, erratic schedules, emergency calls, negative patient responses, piles of syllabus to cover, studying away from their families, can all take a toll on even a normally functioning human being as time progresses.

A great deal of research indicates that a significant percentage of medical professionals and students go through anxiety, depression, and heavy psychological distress (1) (2) (3). However, the one issue that is faced by medical students in monumentally higher percentages is 'Burnout', academic burnout in addition can be defined as a phenomenon that is characterized by feelings (emotional, physical, and cognitive), exhaustion due to the demands of study-ing, and an attitude of withdrawal and detachment from one's studies (4). An exploratory large scale survey was conducted in India to study the prevalence of burnout, in medical students hailing from various universities across India.

The results displayed a significant prevalence of the phenomenon, with 88% of the participants scoring high on the disengagement domain of burnout and 81% scoring high on the 'exhaustion' domain of burnout (5).

While addressing the issue of academic burnout, another important concept that is closely tied to it, and can, perhaps, serve as a precipitating factor is the impostor phenomenon. The concept was first coined and formalised by Pauline Rose Clance and Imes, in 1978, which she explained as the externalizing of successes, a feeling that most of life's achievements are due environmental chance factors but not due to one's own competence (6). It has been widely observed in most studies to talk about the precipitating factors of burnout that act as the tipping point and deteriorate a student's psychological health. Hence, it is important to wonder if there are some factors that actually might be protective against the gruesome effects of burnout. One such factor that has gained attention in recent years and has dominated a significant amount of studies is the growth mindset. A fixed mindset, which Dweck calls entity theory, is the belief that intelligence is fixed at birth and nothing can be done to increase it. On the other end of the spectrum is the belief that



one's intelligence is malleable and can, through one's own efforts, be increased or improved and is called incremental, or the growth mindset (7).

Coming from a more psychosocial viewpoint is another concept that can serve to be a protective factor against burnout, impostor phenomenon, and can streamline a growth mindset, that is, the perception of support one receives and the engagement one feels in his or her interpersonal bonds. It essentially refers to the experience of being valued, respected, cared about, and loved by others who are present in one's life. It may come from different sources such as family, friends, teachers, community, or any social groups to which one is affiliated. The concept is termed a perceived social support. Social support can come in the form of tangible assistance provided by others or in the form of perceived social support that assesses individuals' confidence in the availability of adequate support when needed. (8) (9) (10).

Statement of Purpose

The present study aimed to understand the nature of the relationship between impostor phenomenon, growth mindset, perceived social support and academic burnout in MBBS students across the state of Maharashtra. Additional purpose of this study is to infer if the criterion, academic burnout could be predicted by impostor phenomenon, growth mindset and perceived social support.

2. LITERATURE REVIEW:

The present research studied the interrelationships between Impostor phenomenon, growth mindset, perceived social support, academic burnout in the population of MBBS students. The variable of growth mindset which belongs to the recently evolved field of positive psychology, in particular, has not been explored in past literature as much. A pilot study plunged into the phenomenon of Impostor syndrome and burnout even further by conducting it on medical students. The sample consisted of 138 medical students who entered Jefferson Medical College who successfully completed both the questionnaires of Impostor syndrome and burnout. The results indicated that Impostor syndrome was significantly associated with all three domains of burnout, that is, emotional exhaustion, depersonalization and reduced personal accomplishment, while the Impostor syndrome being more prevalent in the female participants (49.4%), as compared to their male counterparts (23.7%) (11).

A very recent study analysed the relationship between Growth Mindset, Academic Grit, and Academic Burnout in 573 Korean High School Students. The scales used to assess the variables were Korean measures of grit, growth mindset and academic burnout. The results suggested that growth mindset and academic burnout were inversely correlated, while academic grit was found to be a mediating variable between growth mindset and academic burnout. This study puts into light the fact that having a growth oriented mindset can be helpful in countering the effects of exhaustion produced by one's coursework. (12).

An Indian study analysed Stress, Burnout, Social Support and General Health in a sample of 111 nurses who worked in the intensive care unit in hospitals across Indore. The results indicated a 30.27 of a mean burnout score amongst the study population. The scores on the General health questionnaire were a more significant predictor of burnout, as compared to stress and perceived social support, but the other two were still significant. It was also found that higher mean stress scores were implicated with lower perceived social support (13).

Even though the review of literature provides a robust understanding of the variables under study, there can be some gaps identified, which the current study aimed to fill. There is a dearth of studies that provide evidence of the clinical variable of burnout in medical students or students pursuing higher education in the Indian research pool. Impostor phenomenon has been subjected to research for a while in the West, but there is still bleak evidence of the variable in Indian literature. Impostor phenomenon has been largely studied with depression, anxiety and personality factors, but there is a discontinuity in its research with variables like growth mindset and social support.

3. METHOD:

Research Questions:

1. Is there a significant relationship between Impostor Phenomenon and Academic Burnout in MBBS students?
2. Is there a significant relationship between Growth Mindset and Academic Burnout in MBBS students?
3. Is there a significant relationship between Perceived Social Support and Academic Burnout in MBBS students?
4. Is there a significant prediction of Academic Burnout by Impostor Phenomenon, Growth Mindset and Perceived Social Support in MBBS students?



Hypotheses:

1. There will be a significant inverse relationship between Imposter Phenomenon and Academic Burnout in MBBS students.
2. There will be a significant inverse relationship between Growth Mindset and Academic Burnout in MBBS students.
3. There will be a significant inverse relationship between Perceived Social Support and Academic Burnout in MBBS students.
4. There will be a significant prediction of Academic Burnout by Impostor Phenomenon, Growth Mindset and Perceived Social Support in MBBS students.

Variables:

1. Impostor Phenomenon
2. Growth Mindset
3. Perceived Social Support
4. Academic Burnout

Operational Definitions:

Impostor Phenomenon: Impostor phenomenon as measured by the Clance Impostor Phenomenon scale by Pauline Rose Clance in the year 1985.

Growth Mindset: Growth Mindset as measured by the Dweck Mindset Instrument by Carol Dweck in the year 2006.

Perceived Social Support: Perceived social support as measured by the scores on The MultiDimensional Scale of Perceived Social Support (MSPSS) by Andrew Zimet (2016) .

Academic Burnout: Burnout as measured by the scores on the student version Oldenburg Burnout Inventory (OLBI-S) by Reis, Xanthopoulou & Tsaousis,2015.

Sample and Sample Design

Sample size: 100 Bachelor of Medicine and Bachelor of surgery students from the second, third and fourth year of medical university across Maharashtra.

Inclusion Criteria:

1. Participants who are in the second, third and fourth year of Medical institutes across Maharashtra.
2. Participants who are studying MBBS in Government, Deemed and Private Medical institutes across Maharashtra
3. Participants who are familiar with the English language as all the scales to be administered are in English

Exclusion Criteria:

1. Participants who have been diagnosed with a clinical mental disorder and have been taking medications for the same, for the past three months
2. Participants who have recently been through a traumatic incident (with respect to an accident, passing away of a close family member or friend).

Research Design:

A quantitative correlation study was employed using a survey method. For further analyses, regression was carried out to see Academic Burnout as a criterion and Impostor Phenomenon, Growth Mindset, Perceived Social Support as predictor variables.

Sampling Technique: A purposive and snowball sampling technique was employed as the collection of data was from a focused sample of second, third and fourth year MBBS students across universities in Maharashtra. Google forms were generated and circulated to the individuals via social media platforms.



Instrumentation:

Impostor Phenomenon: The Clance Impostor Phenomenon Scale by Pauline Rose Clance, 1985 is a scale designed to measure perceptions of fraudulence and was used to assess Impostor phenomenon. The Clance Impostor Phenomenon Scale contains 20 items. All items of the scale are measured on a 5-point Likert scale. This scale has a high level of internal consistency (coefficient $\alpha = .96$), sound content and criterion validity and has been shown to be relatively effective in differentiating impostors from non impostors in the general population (14) (15).

Growth Mindset: The Dweck's Mindset Instrument (DMI) by Carol Dweck is a scale designed to measure the perceptions of individuals regarding their intelligence, and was used to study the variable of Growth Mindset. This instrument is selected because of its applicability to the adult population, as other mindset instruments are focused on children. The scale has a high face validity and a Cronbach Alpha of between .93 and .95 (16).

Perceived Social Support: The MultiDimensional Scale of Perceived Social Support (MSPSS) by Zimet, Dahlem, Zimet & Farley, 1988 was used to study the variable of Perceived social support. The MSPSS is a 12-item scale. The MSPSS give separate mean scores on each of the three sources and a composite score on the overall perceived social support. Across many studies, the MSPSS has been shown to have good internal and test-retest reliability, good validity, and a fairly stable factorial structure (17) (18)

Academic Burnout: The student version of the Oldenburg Burnout Inventory (OLBI-S) by Reis, Xanthopoulou & Tsaousis, 2015 was used for measuring Academic Burnout. This 16 item scale measures burnout in two dimensions: exhaustion and disengagement. The psychometric properties of the scale indicated that both the exhaustion (Cronbach $\alpha = 0.873$) and the disengagement (Cronbach $\alpha = 0.833$) subscales were sound and reliable (19).

Procedure:

The conceptualization of the research topic started with the meetings with the mentor. After the variables and the population were finalised, corresponding scales appropriate for the nature of the study were obtained and the research proposal was structured. The data was collected by the use of Google form, where the target sample of MBBS students received the link of the forms and they voluntarily participated. The forms were sent to multiple medical colleges across Maharashtra. Prior consent was taken from each participant, and they were assured through the form itself that the data received will be kept confidential. After administering the self report Google forms, the raw data obtained was scored. The coded data was then analysed by the use of Statistical Package for Social Sciences,

Ethical Considerations:

An elaborate section in the Google forms was attributed to explaining the purpose of the study and a consent form was issued along with the Google form. The data collected was kept confidential and was used for academic purposes, as the personal details of the participants were wiped out, and the data was only shared with the dissertation mentor.

4. RESULT:

Table 1: Descriptive statistics of the variables

Variable	Mean	SD	N
Impostor Phenomenon	64.59	14.287	100
Growth Mindset	67.39	15.897	100
Perceived Social Support	63.73	15.178	100
Academic Burnout	40.81	7.019	100



Table 2 (a): *Percentage wise distribution of Impostor Phenomenon in the sample*

Category of Impostor Phenomenon	No.of Participants	Percentage
Few Impostor characteristics	8	8%
Moderate Impostor characteristics	22	22%
Frequent Impostor characteristics	53	53%
High Impostor characteristics	17	17%

It can be observed in Table 2 (a) that 8% of the participants showed few impostor characteristics, 22% of the participants fell under the category showing moderate level of impostor characteristics and 53% and 17% of participants fell under frequent and high levels of impostor characteristics respectively.

Table 2 (b): *Percentage wise distribution of Academic Burnout in the sample*

Category of Impostor Phenomenon	No.of Participants	Percentage
Low	13	13%
Moderate	73	73%
High	14	14%

Table 2 (b) indicates that 13% of the participants showed low levels of academic burnout, 73% of the participants fell under the category showing moderate levels of academic burnout, and 14% of participants fell in the category showing high levels of academic burnout.

Table 3 *Pearson Product Moment Correlation*

Variables	1 Impostor Phenomenon	2 Growth Mindset	3 Perceived Social Support
Academic Burnout	.274**	-.272**	-.311**

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

Linear Regression Analysis

Table 4 (a): *Model summary and significance of predictors of Academic Burnout*

Model	R	R Square	Adjusted R Square	Mean Square	F	Sig.
1	.417 ^a	.173	.148	282.073	6.717	<.001 ^b
				41.991		

a. Dependent variable: Academic Burnout

b. Predictors (constant): Impostor Phenomenon, Growth Mindset, Perceived Social Support



Table 4 (b): *Beta coefficients of the regression model predicting academic burnout*

	Unstandardized Coefficients		Standardized Coef	t	Sig.
	B	Std. Error	Beta		
Constant	48.964	5.853		8.366	<.001
Impostor Phenomenon	.078	.049	.159	1.589	.115
Growth Mindset	-.096	.042	-.217	-2.297	.024
Perceived Social Support	-.106	.046	-.229	-2.304	.0230

5. DISCUSSION:

Firstly, it can be inferred from Table 2 (a) and Table 2 (b) that a significant percentage of participants from the study population were facing concerns of chronic self doubt and exhaustion due to their academics. These percentages should be highlighted and warranted attention to as they suggest that significant students pursuing such a celebrated course are showing signs of chronic self doubt and perceived fraudulence along with suffering from burnout due to their extensive coursework.

From the primary analyses conducted, it must be noted that even though the correlations obtained were moderate, they were fairly significant. A significant positive relationship was found between impostor phenomenon and academic burnout; the reported findings are not unlike the findings reported in a few past researches. A study conducted in the United states on a population of medical students, similar to the population of the present study, reported that impostor syndrome was significantly correlated with all domains of burnout, that is, emotional exhaustion, depersonalization and reduced personal accomplishment (11). The findings reported can be also understood in a way that due to increase in academic burnout, there is a significant amount of mental and emotional exhaustion and ego depletion, which could sow seeds of self doubt about one’s competence. Hence, pushing an individual into the cycle of feelings of impostorism. Wherein an individual may suffer from task related anxiety, frantic attempts to get a task completed, external attribution towards success followed by problematic self evaluation, thus, at the same time furthering the intensity of burnout.

With respect to the variable growth mindset, a moderately significant inverse correlation was found with academic burnout. A study conducted of Korean students reported that growth mindset and academic burnout were inversely correlated. It has been consistently reported through various researches that having an incremental mindset is pivotal to deal with stressful academic environments (12). Lastly, a significant inverse correlation was found between perceived social support and academic burnout. This finding was found consistent with a very recent study conducted in China on 503 university students, the results suggested that social support was negatively associated with academic burnout (20).

The results of the regression analysis indicated that the regression model was a significant fit and that impostor phenomenon, growth mindset, and perceived social support could account for about 14.8% of the variation in academic burnout. It is important to note that having a conducive environment and a growth oriented mindset were found to be more significant in predicting the course of academic burnout. These findings can provide a robust basis for building further intervention strategies as growth mindset and perceived social support were found to be better predictors of academic burnout, they can serve as protective against the same.

6. CONCLUSION:

The findings indicated that a significant correlation was found between academic burnout and impostor phenomenon, growth mindset and perceived social support. The linear regression suggested that academic burnout could be predicted by criterion variables, impostor phenomenon, growth mindset and perceived social support; hence, the regression model proposed was a good fit.

7. LIMITATIONS OF THE STUDY:

While the trends to be observed are certainly robust, and thus can form the basis for intervention development; this study nevertheless suffers from certain shortcomings. The sample size was comparatively small allowing less generalizability. Since this was a correlational study, it can only be suggested that there was a relationship between the variables. However, it did not establish causation, thus limiting the findings. As the data collected was collected through



the use of Google forms, which are self report in nature, and not through face to face interviews, the data missed out on rich non verbal behavioral content that could be gathered in an in person set up.

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