

EXPLORING THE SOCIO-ECONOMIC DETERMINANTS OF MENTAL ILLNESS AMONG RESEARCH STUDENTS: A CASE STUDY OF PAKISTAN

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ABSTRACT

Mental illness is a growing issue all over the world and is not being properly addressed, especially in developing countries. If not countered, mental illness can have devastating effects leading to poor human health and sometimes even loss of life. Recently, (Kirkbride et al., 2024) provided a roadmap to address the social factors associated with mental illness among marginalized groups. Based to this, this study aimed to investigate the prevalence and socio-economic determinants of mental illness among research students in different universities of Pakistan. For this purpose, a questionnaire was developed using three different valid and reliable surveys, namely, Depression Anxiety Stress Scale (DASS-21), gradSERU survey 2021, and Multi-Dimensional Scale of Perceived Social Support (MSPSS). This survey included five different sections to collect the information regarding demographics, mental illness, institutional determinants, financial determinants and social support determinants of mental illness. Three different aspects of mental illness were measured, namely, stress, anxiety and depression. The sample size of our study included 178 research students from 11 different universities of Pakistan. The data was analysed through descriptive statistics, chi-square analysis and cross-tabulation. The results revealed that the major determinants of mental illness were found out to be financial constraints, supervisor guidance issues, lack of research knowledge and some personal issues such as travelling, poor diet, inability to balance between job/family and research work. At the end some policies were suggested in order to improve the mental well-being of research scholars.

INTRODUCTION

Poor mental health amongst youngsters is a growing issue all over the world. All the countries are striving to achieve the sustainable development which is not possible unless the youth is mentally and fit.

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Depression⁴, stress⁵ and anxiety⁶ are the main causes of poor mental health and surprisingly one in every five students are suffered from mental illness (Bubonya, Clark, & Wooden, 2016). While this issue is being addressed properly in the developed countries, much less committed are the authorities in developing nations such as Pakistan. In fact, the problem of mental illness is growing rapidly among youth, in Pakistan, but it attains the property of inattentiveness due to which our human resource is not qualitatively progressing.

The academic journey of research students is characterized by intense intellectual engagement, extended periods of isolation, and the pursuit of academic excellence. While the academic challenges are well-recognized, the mental health implications of this academic trajectory are only beginning to gain attention. Research students often experience high levels of stress, anxiety, and, in some cases, more severe mental health disorders. This phenomenon is not restricted to any specific geographical or cultural context; however, understanding the specific determinants in different settings is crucial for effective intervention and support systems. Many countries have documented the prevalence of stress, anxiety, and depression among post higher education students, for instance, the prevalence of mental illness was 25 percent among university students in Hungary (Biro et al., 2010). Similarly, 70 percent of the students were facing stress and anxiety in a college of United States (Vornholt & De Choudhury, 2021). Moreover, (Lei et al., 2021) reported 8 percent of depression among university students of China. In the context of Pakistan, (Saleem & Mahmood, 2013) revealed that among university students of Lahore, around thirty-one percent were suffering from severe mental health problems. Furthermore, (Javed et al., 2006) stated that among 194 Pakistani university students, almost 58.8 percent of students

were suffering from mental health symptoms like stress, anxiety, depression and schizophrenia. Such high rates of mental illness among youth disqualifies the youngsters to work on their full potential, and hence hinders the economic evolution at accelerating rates. Undoubtedly, the third goal of 2030 agenda of United Nations – focusing on good health and wellbeing, established in 2015, provided a unique opportunity to counter health issues around the globe and is still considered one of the best investments in human resource development, but a keen focus on mental health was not specifically targeted (Bouzaidi & Ragbi, 2024). According to (Katayama et al., 2024), among patients with mental illness in USA, approximately 50 percent still does not have high access to psychiatric services and even 25 percent have low access, ultimately leading to worse health conditions. Specifically, in Pakistan, there also have been developments made in mental health services, specially in educational institutions but due to the lack of financial barriers and illiteracy related to mental illness, the general perception is that barriers still outweigh the developments (Fahad et al., 2021). As educational institutes are producers of human resource, which are considered best investment, so in order for the human capabilities to function at full, the latter must surpass the former. Precisely, the students of higher education play a significant role in development of any nation but unfortunately in developing countries such as Pakistan, these students are faced with certain factors which lead to poor mental health. These factors include different social, economic, institutional, and even demographic factors (Jones-White et al., 2020). In Pakistan, majority of the parents invest, on priority, in their children's higher education to counter financial burdens. Resultantly, the country is producing a lot of higher education graduates without creating enough job opportunities, thus resulting in more

⁴ Depression is a type of mental illness which is characterized by short-term emotional responses leading to a long-term serious mental illness. The symptoms of depression include loss of interest in daily activities, sleep and appetite changes, guilt, demotivation, frustration and distancing from others (Wahed & Hassan, 2017)

⁵ Stress is usually characterized by a sense of feeling overwhelmed. This feeling may be due to having pressure of performing daily activities for too long. Some stress can

help us to perform our day to day functions, too much stress leaves us exhausted and can increase the risk of being psychologically and physically ill as well (Cohen, Kessler & Gordon, 1997)

⁶ Anxiety is a mental illness characterized by a sense of fear or worry that something terrible is going to happen. Anxiety can be general or specific to a place, social situation or thing (phobia) (Wahed & Hassan, 2017).

financial burden for families. Due to this rising unemployment in the nation, the graduate students are often faced with extreme mental health issues (Naseem & Munaf, 2017). Similarly, (Ghafoor et al., 2020) reported that the main factors behind mental illness among post graduate students of Lahore were financial burden, lower social support, and the fear of securing professional career after degree completion.

Although this phenomenon of mental illness among higher education students in Pakistan is getting attention but so far it hasn't been properly researched and analyzed. Explicitly in the context of research scholars, there exists a noticeable gap regarding the investigation of socio-economic determinants among them. To analyze this issue, we aim to measure the extent of mental illness and its socio-economic determinants among research students in the universities of Pakistan.

Literature Review

The prevalence of mental illness among higher education students is increasing day by day. In a recent survey by (Jones-White et al., 2020), 12.8 percent of PhD students, from a United States university, were found out to be depressive and 23 percent were suffering from anxiety. Similarly, (Evans et al., 2018) reported around 41 percent of graduate students, from 26 different countries, were suffering from depression and anxiety. Moreover, (Alageel, 2024) recently proved that 46 percent of 416 Saudi graduate students tested positive for depression. As the extent of mental illness is accelerating around the globe, the same issue has built its roots in Pakistan as well. For instance, a study by (Farooque et al., 2023) revealed the amounts of severe stress, anxiety, and depression among 302 students of 3 Pakistani universities to be 13.7, 11.6, and 19.2 percent, respectively. Similarly, 70 percent of medical university students in Karachi were found out to have severe anxiety and depressive symptoms (Khan et al., 2006). Correspondingly, a survey by (Saleem et al., 2013) in a university of Pakistan showed 31 percent of the students to fall in category of severe mental illness. On the same pattern, (Saba et al., 2020) also performed an investigation among 500 university students of Sialkot and reported the frequencies of stress, anxiety, and depression to be 75, 88.4 and 84.4

percent, respectively. While the sample in these surveys consisted of both undergraduate and postgraduate students, several studies in Pakistan have also targeted only the students pursuing specialization in higher studies. It is proven from literature that the incidence of mental illness is more severe in students pursuing specialized education. An exemplification can be seen by observing the work of (Aqsa et al., 2015) in which 98.68 percent of 227 post graduate students from Hazara university showed signs of mild to moderate depression due to academic stress. Likewise, (Zaman et al., 2014) conveyed that among 21 post graduate medical students, who were suffering from depression, 80.9 percent of them had mild depression. Furthermore, among 101 post graduate medical students from private universities of Lahore, 21.8 showed high levels of stress, while 72.3 percent students displayed moderate stress levels (Tariq et al. 2023).

Despite rich literature on the increased problem of mental illness have been explored, numerous researchers also have delved into exploration of its socio-economic determinants. For instance, the leading determinants of mental illness among PhD scholars of Tasmania, according to (Barry et al., 2018), were found out to be lack of social support, academic pressure and lack of supervisor availability. Similarly, the major determinants of stress among postgraduate students of Hyderabad, according to (Challa, 2021), were found out to be financial factors, psychosomatic factors, family factors, social factors, emotional factors and academic factors. Additionally, (Kavitha et al., 2020) investigated the main determinants of stress, among post graduate students of hyderabad, to be the choice of career, lower social support, relationship issues, family problems, physical health issues, academic pressures such as meeting assignment deadlines, class presentations, high competition among students, uncertainty, fear of viva and unemployment fear. Furthermore, academic pressure and job security after education were the most common determinants of depression among students of a university in Pakistan (Khan et al., 2021). According to (Saeed et al., 2018), the main causes of stress, anxiety, and depression among university students of Lahore were family problems, relationship problems, financial problems, high expectations of grades from

family members, social support problems and negative life events.

Moreover, according to (Tahir et al., 2021), the most dominant factors of stress among post graduate dental students of Lahore were found out to be examination stress, class presentations, high competition among students, inconsistent feedback by supervisors, research burden and fear of failure to treat patients.

Despite the socio-economic determinants, mental health also varies according to certain demographic factors such as gender. For instance, a survey performed by (Parveen, 2016) among post graduate students of Aligarh Muslim University, the academic life of females was found out to be comparatively stressor than male students but male students were facing more stress in their social life and personal life as compared to females. Mental illness is also found to vary according to the marital status of students, as reported by (Zegeye et al., 2018) that around 46 percent of the post graduate students, from Jimma university, were suffering from stress in which the ratio of female students and unmarried students was dominant. Similarly, among 30 post graduate students of Lahore, (Ghafoor et al., 2020) reported married students to be less stressfull as compared to single students and male students to be more stressfull, regarding language barriers and English-speaking skills, as compared to females. Despite the gender and marital status of students, the extent of mental illness is usually positively associated with age. Several studies such as (Nguyen et al., 2013; Garcia-Williams et al., 2014) reported that the behaviour of suicide thoughts and other mental health issues among students tend to increase with age and this behaviour was high in women. Moreover, (Oswalt et al., 2020; Hayee et al., 2021) concluded that depression, anxiety and stress among university students were started at the age of 14 and 75 percent of these problems were found in the students that had an average age of 25 years because at this age students had to make important decisions of their life regarding employment, career, education, and marriage.

Hence, it was concluded, from the previous literature, that the prevalence of mental illness among postgraduate students have been increasing at higher rates. The main problems associated with students' mental illness were found to be

institutional, social, personal and financial factors. In the context of institutional factors, research students have been facing the issues such as academic pressure, supervisor unavailability, delayed feedback on research work, and improper guidance from supervisors. On the other hand, students also faced financial issues such as unemployment, poor social background etc. There were also some personal factors such as inability to maintain a balance between family/work/education, relationship and social support issues.

A combination of all these factors triggers the certain mental health problems among students, mainly stress, anxiety and depression. Although these problems do occur globally but they are more vulnerable in underdeveloped countries such as Pakistan. There are many studies done, in Pakistan, that have measured the prevalence and determinants of mental illness among university students but specifically research students have not been targeted in detail, up to my knowledge. Therefore, this study specifically targeted research students of higher studies to investigate the actual determinants of mental illness among them.

Materials and Methods

Study Design

A descriptive survey design was used to collect cross-sectional data through administering a questionnaire.

Population and Sample Size

The target population in this study was post-graduate and doctoral students of different universities of Pakistan, offering MPhil and PhD programs in different disciplines. A total of 178 research students were included in our sample from 11 different universities of Lahore (5 public and 6 private), which were the major universities providing higher level education in Lahore. These students belonged to 3 different disciplines i.e. Social Sciences, Natural Sciences and Arts & Humanities. According to (Gay, 2009), the recommended sample size for a small population should be at least 30 percent. So, we have selected 11 universities out of 35, which is more than 30 percent.

Sampling Technique

This study employs two different sampling techniques, namely, Snowball Sampling and Convenient Sampling.

As our sample was hard to target, so, snowball sampling helped a lot in data collection as we contacted teachers of different universities who then further asked their students to respond to the questionnaire.

According to (Saunders et al., 2012), convenience sampling is a technique in which respondents are selected from a group of people that are easy to contact. As these students are generally not bound to be in universities at a specific time and place we have used this technique.

Variables of the Study

Mental illness was used as dependent variable in our study. We constructed this variable with the help of Depression, Anxiety and Stress scale (DASS-21)⁷. We included 11 questions⁸ from this scale in order to construct the index of mental illness. The total score of all these questions determined the severity of mental illness. The total score ranged from 0-33, where 0 referred to no mental illness and 33 referred to severe mental illness. From this index we constructed a categorical variable of mental illness which was divided into three categories i.e. No mental illness, Mild mental illness and Severe mental illness.

Age, Gender and Marital Status were included in the demographic section. Other than that, the independent variables were divided into three categories i.e., Institutional, Financial and Social Support determinants. The gradSERU⁹ questionnaire was used to measure these determinants.

The study examined the impact of financial satisfaction (a continuous variable), employment status, and social class on mental health. Additionally, two categorical variables, namely

Guidance from Supervisor and Program Climate, were considered as indicators of institutional determinants. The "Guidance from Supervisor" measure utilized 5 questions from the gradSERU questionnaire, with a total score ranging from 0 to 20 to assess the satisfaction level of students with their supervisors¹⁰. Similarly, the "Program Climate" measurement incorporated 4 questions from the gradSERU questionnaire, and the total score determined the satisfaction level of students with the overall atmosphere of their degree program, ranging from 0 to 12¹¹. Moreover, to assess the social support determinants, two variables were used i.e. Support from Family and Support from Friends.

Strategy of Analysis

To attain the objectives of the study, we adopted the following strategies: -

First, in order to measure the extent of mental illness among research students in universities of Lahore, we calculated different indices like Index of Mental Illness, Supervisor Guidance, Social Support, and Program Climate. We then analysed descriptive statistics and frequencies of different measures in questionnaire and presented our results with the help of frequencies and percentages.

Secondly, we performed cross-tabulation and chi-square analysis in order to investigate the association of mental illness with age, gender, financial satisfaction, program climate, social support and supervisor satisfaction.

Ethical Consideration

Ethical consideration is an essential part of data collection procedure. It takes into consideration the confidentiality and privacy of data collected from respondents. As mental health is a sensitive topic, so all the participants were told about the purpose of the study and their confidentiality and privacy were taken into confidence. Participation in the study was

⁷ DASS-21 is a world-wide used scale used to measure mental illness whose reliability and validity has been tested by several researchers.

⁸ These 11 questions are available in the questionnaire, under the heading "Mental Health Section", attached in the appendix.

⁹ Developed by the SERU Consortium at University of California in 2017 to measure the experiences of post-

graduate and Doctoral students in research universities. It includes the institutional, financial and some personal factors to capture the students' experiences and difficulties during studies (Jones-White et al., 2021).

¹⁰ A score of 20 showed highest satisfaction level, while 0 showed least satisfaction with supervisor.

¹¹ A score of 12 showed highest satisfaction level, while 0 showed least satisfaction with program climate.

on voluntary basis and questionnaires were divided among participants after taking their consent.

Results and Discussion

Descriptive Analysis

The descriptive statistics displayed the indices of mental illness and its socio-economic determinants, while it also reported different frequencies related to the categorical distribution and the extent of mental illness among research scholars.

Mental Health Section

The overall index of mental illness showed that, among 178 post graduate students, around 39 percent students were suffering from mild mental illness and 4 percent were suffering from severe mental illness. The stress index showed that around 28 percent students were suffering from mild stress and 11 percent were suffering from severe stress. The anxiety index showed that around 23 percent students were suffering from mild anxiety and 8 percent were suffering from severe anxiety. The depression index showed that around 34 percent students were suffering from mild depression and 6 percent were suffering from severe depression.

Financial Determinants

Around 83 percent students from our sample belonged to middle class family backgrounds, however, most of them (73 percent) were satisfied from their financial condition during their research.

Around 48 percent students were unemployed during their research and majority of them showed serious concern about their future career (70 percent).

Social Support Factors

The social support index clarified that majority of the students were satisfied from the support they got from their family and friends in difficult times (more than 50 percent).

Institutional Elements

Talking about supervisor guidance, around 75 percent students were moderately satisfied and 5 percent were extremely dissatisfied from the guidance they received from advisors during their research.

When students were asked about the atmosphere of their university or department, majority of them were extremely dissatisfied from it (48 percent) and only 3 percent were fully satisfied with the treatment they got from faculty members.

Students were further asked about the factors that contributed to late degree completion. According to the students, Course load, inadequate advising of supervisor and career responsibilities were the main obstacles in their degree completion.

Chi-Square Analysis

Chi-square analysis was used to test the association between categorical variable of mental illness and its socio-economic determinants.

Gender and Mental Illness

Table 6.1: Cross Tabulation: (Gender, Mental Illness)

			Mental Illness				Total	
			No Illness	Mental	Mild Illness	Mental		Severe illness
Gender	Male	% within Gender	61%		39%		0%	100%
		% within Mental Illness	50%		46%		0%	46%
	Female	% within Gender	53%		40%		7%	100%
		% within Mental Illness	50%		54%		100%	54%
Total		% within Gender	57%		39%		4%	100%
		% within Mental Illness	100%		100%		100%	100%

Chi-Square value = 6.463, P-value = 0.039

The above table shows the impact of gender differences on their mental illness. Since majority of the students who were suffering from mental illness belonged to the female category, there was a significant difference between the mental illness of male and female students. It was seen that 39 percent male students had shown mild mental illness, while, no male student had shown symptoms of severe mental illness. In contrast, 40 percent female students showed the symptoms of mild mental illness, while, 7 percent females were suffering from severe mental illness. Moreover, the value of Chi square was also significant so we concluded that there was an association between gender and mental illness. Hence, female students were suffering more

from mental illness as compared to male students. These results reflected the work of (Dena T. Smith, 2018), as they also concluded that women were more likely to suffer from internal mental disorders like anxiety and depression. This was because men usually face external disorders like substance abuse, aggressive behavior, attention deficient disorder and anti-social personality disorder. The expectations of independence and dominance lead men to hide their disorders, leading to activities like substance use, which further accelerates their mental illness. Moreover, as most of the men try to hide their emotions, the screening tools and mental health measurement scales have been questioned by various researchers about their reliability.

Age and Mental Illness

Table 6.2: Cross Tabulation: (Age, Mental Illness)

			Mental Illness				Total
			No Mental Illness	Mild Mental Illness	Severe Mental Illness		
Age	20-29	% within Age	51%	44%	5%	100%	
		% within Mental Illness	71%	87%	100%	79%	
	30-39	% within Age	75%	25%	0%	100%	
		% within Mental Illness	21%	10%	0%	16%	
	40 or Above	% within Age	80%	20%	0%	100%	
		% within Mental Illness	8%	3%	0%	6%	
Total	% within Age	57%	39%	4%	100%		
	% within Mental Illness	100%	100%	100%	100%		

Chi-Square value = 8.248, P-value = 0.083

The differences of mental illness among three different age groups have been demonstrated in the table above. Since majority of the students who were suffering from mental illness belonged to the age group of “20 to 29”, there was a significant

difference between the mental illness of different age group students. It was found that 44 percent of students, who fell in the age group of “20-29”, had shown mild mental illness, while, 5 percent of them had shown symptoms of severe mental illness. Conversely, 25 percent students, who fell in the age

group of “30-39”, had shown mild mental illness. Moreover, none of them fell in the category of severe mental illness. At last, 20 percent students who fell in the age group of “40 or Above” had shown mild mental illness and no student in this age group was severely ill. Moreover, the value of Chi square was also significant so we concluded that there existed an association between age and mental illness. Hence, we found that as the age of a student increased, its mental illness decreased. These results may reflect enhanced maturity for older students. As the age of a

student increases, he/she becomes more mature and meaningful regarding their life goals which contribute to their positive mental health. Moreover, as the age of a student increases, he/she gets employed or get settled in their career which also contributes to mental peace. Our results were consistent with (Daniel R. Jones-White, 2021), (Hamideh Manchri, 2016) and (Hafsa Hayee, 2021) as they also found older students to be less mentally disturbed.

Financial Satisfaction and Mental Illness

Table 6.3: Cross Tabulation: (Financial Satisfaction, Mental Illness)

			Mental Illness				Total
			No Mental Illness	Mild Mental Illness	Severe Mental illness		
Financial Satisfaction	Extremely Dissatisfied	% within Financial Satisfaction	49%	45%	6%	100%	
		% within Mental Illness	23%	30%	43%	26%	
	Moderately Satisfied	% within Financial Satisfaction	56%	41%	3%	100%	
		% within Mental Illness	40%	41%	29%	40%	
	Extremely Satisfied	% within Financial Satisfaction	63%	33%	3%	100%	
		% within Mental Illness	38%	29%	29%	34%	
Total		% within Financial Satisfaction	57%	39%	4%	100%	
		% within Mental Illness	100%	100%	100%	100%	

Chi-Square value = 2.896, P-value = 0.575

The above table displays the association between financial satisfaction of students and their mental illness. Since the majority of the students who were suffering from mental illness were extremely dissatisfied with their financial conditions, there was an association between mental illness and financial satisfaction of students. However, the value of the

Chi-square suggested an insignificant association between financial satisfaction and mental illness. It was observed that among the students who were not satisfied with their financial condition, 45 percent showed mild mental illness and 6 percent showed severe mental illness. Among the students who were moderately satisfied with their financial status, 41 percent showed mild mental illness and 3 percent

showed severe mental illness. Alternatively, among the students who were extremely satisfied with their financial status, 33 percent showed mild mental illness and 3 percent showed severe mental illness.

These results summarized that as the financial satisfaction of a student increased, the mental illness of that student decreased.

Supervisor Guidance and Mental Illness

Table 6.4: Cross Tabulation: (Supervisor Guidance, Mental Illness)

			Mental Illness			Total
			No Mental Illness	Mild Mental Illness	Severe Mental illness	
Supervisor Guidance	Extremely Dissatisfied	% within Supervisor Guidance	57%	29%	14%	100%
		% within Mental Illness	4%	3%	14%	4%
	Moderately Satisfied	% within Supervisor Guidance	53%	44%	3%	100%
		% within Mental Illness	70%	86%	57%	76%
	Extremely Satisfied	% within Supervisor Guidance	72%	22%	6%	100%
		% within Mental Illness	26%	11%	29%	20%
Total		% within Supervisor Guidance	57%	39%	4%	100%
		% within Mental Illness	100%	100%	100%	100%

Chi-Square value = 8.185, P-value = 0.085

The results stated that majority of the students, suffering from mental illness, were moderately satisfied with their supervisors and the value of the Chi-square test was also significant, there existed a significant association between the mental illness of students and the guidance they received from their supervisors, though not a strong one. It was observed that among the students who were not satisfied with their supervisors, 29 percent showed mild mental illness and 14 percent showed severe mental illness. Among the students who were moderately satisfied with their supervisors, 44 percent showed mild mental illness and 3 percent showed severe mental illness. Alternatively, among the students who were extremely satisfied with their supervisors, 22 percent

showed mild mental illness and 6 percent showed severe mental illness. These results summarized that the students who were extremely dissatisfied with their supervisors showed more severe symptoms of mental illness compared to others, but the students who were moderately satisfied with their supervisors showed more, comparatively, mild symptoms of mental illness. The results were consistent with the existing literature but only to a small extent. For instance, Chloe Casey (2022) found supervisor guidance to be one of the major factors that directly affected mental illness, but in this case, the association was not as strong.

Program Climate and Mental Illness

Table 6.5: Cross Tabulation: (Program Climate, Mental Illness)

			Mental Illness				Total
			No Mental Illness	Mild Mental Illness	Severe Mental illness		
Program Climate	Extremely Dissatisfied	% within Program Climate	62%	33%	5%	100%	
		% within Mental Illness	49%	37%	57%	44%	
	Moderately Satisfied	% within Program Climate	54%	43%	3%	100%	
		% within Mental Illness	50%	57%	43%	53%	
	Extremely Satisfied	% within Program Climate	20%	80%	0%	100%	
		% within Mental Illness	1%	6%	0%	3%	
Total		% within Program Climate	57%	39%	4%	100%	
		% within Mental Illness	100%	100%	100%	100%	

Chi-Square value = 5.444, P-value = 0.245

The above table shows the association between program climate and mental illness of students. Majority of the students who were satisfied with the atmosphere of their university or program were also suffering from mental illness. It was observed that, among the students who were extremely dissatisfied with their program climate, 33 percent showed mild mental illness and 62 percent had no mental illness. Among the students who were moderately satisfied with their program climate, 43 percent showed mild mental illness and 54 percent had no mental illness. Alternatively, among the students who were

extremely satisfied with their program climate, 80 percent showed mild mental illness, whereas 20 percent had no mental illness. On the other hand, when the severity of mental illness was compared, it was observed that dissatisfied students had more severe symptoms of mental illness, although the frequency was too small. These results were inconsistent with the previous literature and were somewhat confusing. Moreover, as the Chi-square value was insignificant, it was concluded that program climate was not a determinant of mental illness.

Social Support and Mental Illness

Table 6.6: Cross Tabulation: (Social Support, Mental Illness)

			Mental Illness			Total
			No Mental Illness	Mild Mental Illness	Severe Mental illness	
Social Support	Extremely Dissatisfied	% within Social Support	45%	45%	11%	100%
		% within Mental Illness	17%	24%	57%	21%
	Moderately Satisfied	% within Social Support	51%	45%	4%	100%
		% within Mental Illness	28%	36%	29%	31%
	Extremely Satisfied	% within Social Support	66%	33%	1%	100%
		% within Mental Illness	55%	40%	14%	48%
Total		% within Social Support	57%	39%	4%	100%
		% within Mental Illness	100%	100%	100%	100%

Chi-Square value = 10.091, P-value = 0.039

By observing the above table, it was concluded that there existed a moderate relationship between social support and mental illness, as those who were suffering from severe mental illness mostly belonged to the extremely dissatisfied category compared to other categories.

When looking at the table, it was found that those who were extremely satisfied with their social support from friends and family were mostly not suffering from any mental illness (65%), while this ratio was 44% in the case of dissatisfied people, where almost 11% were suffering from severe mental illness. Therefore, it was concluded that a

relationship existed, but it was not very strong. These results summarized that as a student's satisfaction with social support from friends and family increased, the severity of their mental illness decreased. This was also a clear indication that the role of social support from family and friends played a crucial role in the mental well-being of students. Students who were not able to receive support from their loved ones had more severe mental health burdens. As the value of Chi-square was significant and previous studies, such as Eva Biro (2010), had also found the same relationship, it was concluded that there was an association between social support and mental illness.

Social Class and Mental Illness

Table 6.7: Cross Tabulation: (Social Class, Mental Illness)

			Mental Illness				Total
			No Mental Illness	Mild Mental Illness	Severe Mental illness		
Social Class	Low Income or poor	% within Social Class	61%	39%	0%	100%	
		% within Mental Illness	11%	10%	0%	10%	
	Middle Class	% within Social Class	56%	40%	4%	100%	
		% within Mental Illness	82%	84%	86%	83%	
	Wealthy	% within Social Class	58%	33%	8%	100%	
		% within Mental Illness	7%	6%	14%	7%	
Total		% within Social Class	57%	39%	4%	100%	
		% within Mental Illness	100%	100%	100%	100%	

Chi-Square value = 1.503, P-value = 0.826

The results from the table showed that there existed a relationship between social class and mental illness, as those who were suffering from severe mental illness mostly belonged to the wealthy class compared to other categories.

When looking at the table, it was found that those who belonged to the poor or lower social class were mostly not suffering from any mental illness (61%), while this ratio was 58% in the case of wealthy people, where almost 8% were suffering from severe mental illness. Therefore, it was concluded that an association existed between social class and mental illness, but it was not significant because the value of Chi-square was insignificant. Past studies, such as

Abdallah Abu Mellal (2014), had shown a similar association significantly. Although the results were insignificant, they indicated that as the social class of a student became wealthier, the severity of their mental illness increased. This could have been due to the fact that students from financially weaker family backgrounds focused mainly on their financial problems. On the other hand, students from wealthy backgrounds dealt with other types of psychological problems, such as relationship issues, inability to manage time for family gatherings, and drug abuse problems. These types of problems contributed more to mental stress, leading these students to exhibit higher symptoms of mental illness.

Employment Status and Mental Illness

Table 6.8: Cross Tabulation: (Employment Status, Mental Illness)

			Mental Illness			Total
			No Mental Illness	Mild Mental Illness	Severe Mental illness	
Employment Status	Employed	% within Employment Status	61%	36%	2%	100%

		% within Mental Illness	53%	46%	29%	49%
	Unemployed	% within Employment Status	53%	42%	5%	100%
		% within Mental Illness	45%	51%	57%	48%
	Out of labor force	% within Employment Status	40%	40%	20%	100%
		% within Mental Illness	2%	3%	14%	3%
Total		% within Employment Status	57%	39%	4%	100%
		% within Mental Illness	100%	100%	100%	100%

Chi-Square value = 5.218, P-value = 0.266

The above table showed the impact of employment status on the mental illness of students. By observing the table, it was concluded that there existed a relationship between employment status and mental illness, as those who were suffering from severe mental illness were mostly not employed.

When looking at the table, it was found that those who were employed were mostly not suffering from any mental illness (61%), while this ratio was 53% in the case of unemployed people, where almost 5% were suffering from severe mental illness. Moreover, 40% of students in the "out of labor force" category showed severe mental illness. Therefore, it was concluded that an association existed between employment status and mental illness, but it was not significant because the value of Chi-square was insignificant. These results summarized that employed students showed lower levels of mental illness compared to unemployed students. The results further indicated that the mental illness of unemployed students was higher than that of employed students. These findings highlighted the pressure of unemployment that students suffered during their research. As students aged, they became more worried if they were still dependent on family income or loans. It was against an individual's self-respect if they were not earning at least enough to

cover their own expenses. Additionally, students in the "out of labor force" category showed the highest levels of mental illness. It was evident that an individual who was unable to work was more stressed compared to students who were at least able to get employed.

Conclusion

This study aimed to investigate the prevalence and socio-economic determinants of mental illness among research students of Lahore. For this purpose, a survey questionnaire was distributed among 178 research students of 11 different universities of Lahore. This survey included five different sections to collect the information regarding demographics, mental illness, institutional determinants, financial determinants and social support determinants of mental illness. Three different aspects of mental illness were measured, namely, stress, anxiety and depression. The data was analyzed through descriptive statistics, chi-square analysis, and cross tabulation.

The conclusionary remarks from our analysis were as follows:

- Mental illness was found out to be higher in females as compared to male students.
- As the age of the student increased, his/her mental illness decreased.

- As the financial satisfaction of the student increased, his/her mental illness decreased.
- Unemployed students were found to be more mentally stressed out as compared to the employed students. Moreover, middle class students were suffered most from mental illness as compared to poor income and wealthy students.
- The percentage of students who showed severe symptoms of mental illness were extremely dissatisfied from their supervisors.
- As the social support of the student increased, his/her mental illness decreased.
- The main sources of stress for research scholars were originated from three major issues i.e. Lack of supervisor guidance, Financial pressure and Lack of research knowledge.
- Majority of the students stated that their supervisors were unavailable, did not had expertise in the chosen topic, did not guided them properly, delayed the feedback on submitted work and did not communicate with students in a proper way.
- Many students reported difficulties in selecting their research topics and supervisors. Additionally, a significant number of students experienced stress due to personal reasons, such as travel issues, hostel mess problems, and challenges in balancing family time with research work.

Policy Recommendations

The following are some policies, recommended by the authors, in order to make a positive impact on mental well-being of research students so that the maximum productivity of human resource can be achieved.

- A proper research subject should be included in the course work in order to teach students about the complete research process.
 - There should be check and balance regarding the updates of student's research progress.
 - Students must visit their supervisor at least once a week in order to stay consistent in research work.
- Career counseling seminars should be conducted time to time.
 - Non-resident research candidates should be given options to arrange their meetings online, especially employed ones.
 - Mental health centers should be built in every institute and students should be encouraged to visit psychiatrists on regular basis.

There should be a friendly environment between students and faculty members. In this way, students can talk freely about their problems and hence, find appropriate solutions.

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