

Socio-Demographic Determinants of Depressive Symptoms among PhD Scholars: Evidence from Government College University Faisalabad

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Abstract

The prevalence of depression symptoms among PhD students is a growing concern these days due to several risk factors such as prolonged research work, academic stress, financial instability, and professional uncertainty. The current study was conducted to assess the socio-demographic and academic factors of depression among ninety PhD students at Government College University Faisalabad (GCUF). A quantitative survey was conducted that consisted of demographic, sociological, and PHQ-9 questions. Both descriptive statistics and inferential statistics including the Chi-square test, Gamma and multiple regression analysis were used to analyze the data. The survey results revealed that 72.2% of participants suffer from mild, moderate, or severe depression. Financial problems, a short deadline for submission, and the pressure of studies were found to be significant predictors of depression with a mean of 3.96, 3.92, and 3.87, respectively. The study further revealed that 55.9% of the total variation in depression was predicted by the selected independent variables ($R^2 = .559$, $p < .001$). The analysis revealed that age, marital status, employment status, and monthly income predicted depression, while gender was not a significant predictor. The study's results emphasize the role of socio-economic and academic factors on the well-being of students at the doctoral level.

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Introduction

Doctoral education is characterized by self-organized research, production, publish or perish, and job market fears. Although being a PhD student has many professional and intellectual advantages, this stage of higher education can be extremely stressful for many people. Research has revealed that many doctoral students are experiencing psychological distress resulting from the intense workload, work-life imbalance, supervisory relationships and uncertain career prospects (Levecque et al., 2017). Evans et al. (2018) reported substantially elevated levels of depression and anxiety among graduate students compared with the general population.

Depressive symptoms should not be considered as simply an intrapersonal psychological issue through sociological point of view. Students' social relationships, institutional environments, financial resources and academic expectations can all play a role in their exposure to stress

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and ability to cope with it. The social stress perspective developed by Mirowsky and Ross (2017) highlights that the unequal distribution of resources and different social conditions contribute to the level of mental health problems. The same way, the stress and coping perspective by Lazarus and Folkman (1984) explain that the feeling of distress occurs when demands are overwhelming in relation to the coping resources.

Financial circumstances are particularly relevant to doctoral students. Limited access to jobs, insufficient income and concerns about research costs can lead to ongoing unease. Previous studies have associated financial difficulties with mental health issues among university and graduate students (Hyun et al., 2006; Satinsky et al., 2021). Social and academic support can, however, serve as crucial tools for managing such problems. Stubb et al. (2011) discovered that the socio-psychological well-being of doctoral students is intensely connected with the balance between inspiration, academic demands and exhaustion. In Pakistan, the matter may be complicated by the underdeveloped system of institutional mental health care and social stigma associated with psychological problems. Khan et al. (2015) therefore investigate mental health literacy and social attitudes towards depression in Pakistani students. Instead of reiterating the thesis statement proposed by the authors, this article will focus on the socio-demographic aspects of depression and PhD student experiences in particular. Indeed, the current piece aims to provide a comprehensive analysis of PhD students' depression levels in relation to their socio-economic background, academic progress and financial situation.

Methodology

The study was quantitative in nature. The population for this study comprised of PhD scholars at Government College University Faisalabad. The thesis sought 200 PhD scholars as the population size and 90 respondents were selected from these numbers on the ratio basis through random sampling technique from the identified departments; Sociology, Political Science, International Relations, Applied Psychology and Education.

Final

A total of three sections were used in a self administered questionnaire to collect data. The first section provided information on demographical and socio-economic characteristics. The second section comprised close-ended questions to assess the level of agreement with a set of statements using a five-point Likert scale. The third section was designed to determine the severity of depression by using the PHQ-9 instrument. This tool contains nine questions with a scoring range between 0 and 3 for each question.

The data were analyzed using descriptive statistics, frequencies, percentages, means, and standard deviations. The Chi-square test and Gamma analysis were performed to determine

the association between categorical and ordinal variables and depression. Multiple linear regression was conducted to assess the effect of age, gender, marital status, employment status, and monthly income on depression levels.

Results

Respondent Profile

The sample of participants consisted of 90 PhD scholars. Thus, 60.0% were female, while 40.0% were male. The biggest part of respondents was 31–35 years old (40.0%), and the next was 25–30 years old (35.6%). As a result, most of the PhD students were single, which accounted for 71.1%.

Table 1. Selected Socio-Demographic Characteristics of Respondents

Characteristic	Category	Frequency	Percent
Gender	Male	36	40.0
	Female	54	60.0
Age	25–30	32	35.6
	31–35	36	40.0
	36–40	18	20.0
	41+	4	4.4
Marital status	Single	64	71.1
	Married	25	27.8
	Other	1	1.1
Academic status	Coursework	18	20.0
	Research phase	45	50.0
	Thesis writing	27	30.0
Employment	Employed	32	35.6
	Unemployed	58	64.4

Source: Thesis dataset/results; $N = 90$.

The academic stage of the participants implied that half of the respondents were involved in research while another 30.0% were writing the theses. This suggests that 80.0% of the participants were engaged in research-related activity. The employment status also indicated that many respondents experienced economic vulnerability because 64.4% were unemployed compared to 35.6% who were employed.

The results of the analysis of statements using Likert items also imply that the financial and academic issues were a huge concern to the participants. The item about the absence of

financial stability recorded a mean of 3.96 while lack of time due to deadlines and the pressure to conduct research recorded 3.92. Similarly, concern about funding and expenditures was 3.87. Consequently, the thesis results indicate that 68.9% of the participants strongly agreed or agreed that they were concerned about funding and educational expenditures.

Table 2. Selected Academic and Financial Stress Indicators

Statement	Mean	SD
Deadlines and research pressure stress me	3.92	1.04
I find it difficult to maintain work-life balance	3.82	1.08
I worry about funding and expenses	3.87	1.06
Lack of financial stability increases my stress	3.96	1.02

Source: Thesis dataset/results; $N = 90$.

These findings are consistent with studies conducted before that revealed sources of doctoral student depression comprising workload, research, and finances. Levecque et al. (2017) and Evans et al. (2018) underscored the significance of work organization and wellbeing during professional studies, and academic workload and work-life balance, respectively. The instrument used to measure depression comprised the PHQ-9 items. Accordingly, the present results demonstrate that 36 respondents (40.0%) fell within the moderate group, 20 respondents (22.2%) were in the moderately severe category, and 9 respondents (10.0%) were severe. On the whole, 72.2% of participants were classified into the two bottom categories.

Table 3. Depression Levels Based on PHQ-9

Depression level	PHQ-9 score	Frequency	Percent
Minimal	0–4	7	7.8
Mild	5–9	18	20.0
Moderate	10–14	36	40.0
Moderately severe	15–19	20	22.2
Severe	20–27	9	10.0
Total		90	100.0

Source: Thesis dataset/results; $N = 90$.

The distribution shows that depression symptoms were reported by everyone in the sample. The biggest group was moderate ones. This finding aligns with previous studies reporting that a significant proportion of doctoral students experience high levels of psychological distress (Levecque et al., 2017; Evans et al., 2018). A multiple linear regression of depression with age, gender, marital status, employment status and monthly income as predictors was conducted. $R = .748$ and $R^2 = .559$ was achieved by the model, which means that the selected

socio-demographic variables explained 55.9% of the variance in depression scores. The adjusted R^2 was .532. The overall regression model was statistically significant, $F(5,84) = 28.106$, $p < .001$.

Table 4. Multiple Regression Predicting Depression

Predictor	B	SE	Beta	T	p
Constant	1.482	.214	—	6.925	.000
Age	.521	.112	.431	4.652	.000
Gender	.084	.153	.052	.549	.584
Marital status	-.318	.141	-.247	-2.255	.027
Employment status	.386	.149	.291	2.591	.011
Monthly income	-.402	.136	-.364	-2.956	.004

Dependent variable: Depression among PhD students. Source: Thesis dataset/results.

The results of the regression analysis revealed that age, marital status, employment status and monthly income had statistically significant coefficients, whereas gender did not reach the threshold for statistical significance. The coefficient for monthly-income was negative, which implied an inverse statistical relationship between income and depression in this model. Employment status was positive, and marital status negative. These findings should be interpreted in the context of how the original variables had been coded and the fact that the study used a cross-sectional design. The bivariate analysis also demonstrated that monthly income was significantly associated with depression ($\chi^2 = 11.87$, $p = .018$). Gamma was $-.347$ ($p = .011$) for monthly income. Employment status also was significantly associated with depression ($\chi^2 = 8.41$, $p = .015$; Gamma = $.336$, $p = .018$).

Discussion

The research results indicate that the symptoms of depression are associated with various academic and socioeconomic factors in the sampled PhD scholars. The significant number of participants engaged in research and thesis writing since these stages to some extent involve higher levels of independence, ongoing research activities and the necessity to complete substantial amounts of work. Previous studies also confirm that the doctoral candidates can experience severe distress due to high levels of workloads, research-related stress and uncertainty (Levecque et al., 2017; Stubb et al., 2011).

The other significant issue was connected to financial conditions. Almost two-thirds of the participants were unemployed, and concerns about financial problems and expenses related to research also obtained relatively high mean scores. These results are consistent with previous studies that revealed a link between financial status and psychological well-being among

graduate students (Hyun et al., 2006; Satinsky et al., 2021). In turn, in the current study, monthly income was negatively correlated with depression in both the bivariate analysis and the regression model.

The distribution of scores indicates that 72.2% of respondents fell within the moderate, moderately severe or severe category. This observation is largely in line with international research into the prevalence of PHQ-9 symptoms, which reports significant concern about mental health issues among doctoral and graduate students. Evans et al. (2018), for instance, report increased symptoms of depression and anxiety among graduate students, whereas work organization and psychosocial conditions are identified as key predictors of mental health among PhD researchers (Levecque et al., 2017).

The regression analysis found more evidence that socio-demographic circumstances are related to depressive symptoms in this sample. It explained 55.9% of the variance in depression while controlling the effect size of gender, which was not statistically significant. That means that the social and economic circumstances embodied in age, marital status, employment and income are worth considering along with individual characteristics.

Conclusion

A study was conducted among 90 PhD scholars at GCUF to assess the levels of depressive symptoms using the PHQ-9 and socio-demographic variables. The results indicate that a significant proportion of the respondents fall into the moderate and severe depression categories. Additionally, the study found that academic deadlines and pressures, research-related stresses, financial problems and worries about funding were the primary sources of stress for the participants. Moreover, a multiple regression analysis revealed that age, marital status, employment status and monthly income were significant predictors of depression, whereas gender was not a significant predictor.

The results of this study support a sociological perspective in which the doctoral students' mental wellness is associated with their academic organization and socio-economic status. Universities can therefore create affordable counseling, supervision, financial aid, research opportunities and strategies to create a conducive academic atmosphere. The study was conducted in one public university with a sample size of 90 respondents and therefore its results cannot be generalized to all PhD students in Pakistan without further research.

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