

# COMPARISON OF ACADEMIC BURNOUT SYNDROME IN REHABILITATION SCIENCES STUDENTS

*Original Research*

Tarab Rasool<sup>1</sup>, M. Usama Sohail<sup>2\*</sup>, Kashaf Shahbaz<sup>1</sup>, Tamkeen Abid<sup>3</sup>, Sawera Sareer<sup>4</sup>, Fatima Saifullah<sup>5</sup>, Samama Abdul Rehman<sup>6</sup>

<sup>1</sup>Consultant Physiotherapist, Physiocure Fitness Clinic, Pakistan.

<sup>2</sup>Senior Lecturer, PSRD College of Rehabilitation Sciences, Lahore, Pakistan.

<sup>3</sup>Speech and Language Pathologist, Smart Institute of Rehabilitation Medicine, Capital Smart City, Islamabad, Pakistan.

<sup>4</sup>Consultant Speech and Language Pathologist, Bright Therapeutic Center, Pakistan.

<sup>5</sup>House Officer, PSRD College of Rehabilitation Sciences, Lahore, Pakistan.

<sup>6</sup>Physiotherapist, PCRS College of Rehabilitation Sciences, Lahore, Pakistan.

**Corresponding Author:** M. Usama Sohail, Senior Lecturer, PSRD College of Rehabilitation Sciences, Lahore, Pakistan, [dr.usama51@gmail.com](mailto:dr.usama51@gmail.com)

**Acknowledgement:** The authors express sincere gratitude to all participating students and institutional authorities for their cooperation.

Conflict of Interest: None

Grant Support & Financial Support: None

## ABSTRACT

**Background:** Burnout is a psychological syndrome characterized by emotional exhaustion, depersonalization, and a reduced sense of personal accomplishment. While traditionally associated with professionals, growing evidence indicates that students—particularly those in demanding academic disciplines—are also at risk. Academic burnout among healthcare students can compromise learning outcomes, mental health, and future clinical performance. Despite increasing recognition of burnout in medical education, limited research has addressed its prevalence among students in rehabilitation sciences such as physical therapy, occupational therapy, and speech-language pathology.

**Objective:** To measure and compare academic burnout across different disciplines of rehabilitation sciences, evaluating domain-specific prevalence and demographic associations.

**Methods:** A cross-sectional study was conducted over six months using a purposive sampling technique. The calculated sample size was 160 undergraduate students aged 18 to 25 years from PSRD and FMH colleges in Lahore. Participants were enrolled in Doctor of Physical Therapy (DPT), Bachelor of Occupational Therapy (OT), or Bachelor of Speech and Language Pathology (SLP) programs. The Copenhagen Burnout Inventory (CBI) was modified for academic context and distributed both online and in person. Data were analyzed using SPSS version 26, employing descriptive statistics and chi-square tests.

**Results:** The mean age of participants was  $21.55 \pm 1.75$  years, with 65.6% females and 34.4% males. DPT students comprised 54.4%, OT 23.8%, and SLP 21.9% of the sample. Most participants were in their third to fifth academic years. Prevalence of burnout was highest in the personal domain (75.5%), followed by work-related (68.8%) and client-related burnout (61.3%). The overall rate of moderate to severe burnout was 68.6%. No statistically significant relationship was found between academic discipline and burnout ( $p > 0.05$ ,  $r < 0.5$ ).

**Conclusion:** A substantial proportion of rehabilitation sciences students experience academic burnout, regardless of their specific discipline. This highlights the need for institutional support and early intervention strategies.

**Keywords:** Academic Stress, Burnout, Copenhagen Burnout Inventory, Occupational Therapy, Physical Therapy, Speech-Language Pathology, Undergraduate Students.

## INTRODUCTION

Burnout, a psychological syndrome resulting from chronic workplace stress, was first described in academic literature by Herbert J. Freudenberger, who characterized it as mental and physical exhaustion due to excessive professional demands (1). Although Freudenberger introduced the term within the realm of healthcare professions, its conceptual roots trace back to the literary world—particularly to Graham Greene’s 1961 novel *A Burnt-Out Case*, which depicted a character emotionally depleted to the point of indifference (2). Freudenberger’s clinical interpretation of burnout was later refined by Maslach and Jackson, who conceptualized it as a three-dimensional construct encompassing emotional exhaustion, depersonalization, and diminished personal accomplishment (3). This multidimensional theory has become foundational in burnout research, especially in healthcare and service professions. Traditionally, burnout has been studied extensively among individuals working in emotionally demanding roles, particularly those that require significant interpersonal engagement. Maslach originally framed burnout in the context of professions that involved direct human service, such as healthcare, teaching, and social work (4,5). However, the evolving academic landscape has led researchers to recognize that students—especially those in rigorous academic programs—experience comparable levels of emotional and psychological strain. Pines and Meier were among the first to introduce the term “academic burnout,” describing it as a state of emotional fatigue, disengagement from academic responsibilities, estrangement from peers, and a general loss of enthusiasm toward learning (6). These symptoms closely mirror occupational burnout, suggesting that students are equally vulnerable to its consequences. Recent investigations have provided compelling evidence for the prevalence of burnout among university students. A study confirmed that burnout is not exclusive to professionals but also manifests in academic settings, particularly among those enrolled in competitive programs such as medicine (7,8).

Alarming, some longitudinal research indicates that the earliest signs of physician burnout can be traced back to undergraduate medical training, often preceding symptoms of depression or contributing to heightened suicide risk among future healthcare providers (9). Cross-sectional data further reinforces this concern. A study conducted on 651 medical students and residents, identifying high rates of burnout, anxiety, and depression. Notably, no protective factors were found, indicating a need for systemic changes in the academic environment to mitigate these issues (10). Similarly, a study examined burnout prevalence among 600 medical students in Karachi, Pakistan, using validated tools such as the Maslach Burnout Inventory (MBI-HSS) and Perceived Stress Scale. Their findings revealed that 18.2% of participants met the criteria for burnout, underscoring the global nature of this phenomenon (11). Despite the wealth of literature focusing on burnout in medical students, an evident gap remains in understanding how burnout affects students in the rehabilitation sciences, such as physical therapy, speech-language pathology, and occupational therapy. These disciplines are inherently demanding, requiring both academic rigor and clinical competence. Yet, the emotional toll on students pursuing these fields remains underexplored. Given the increasing academic pressures, limited institutional support, and the interpersonal demands inherent to rehabilitation education, it is essential to investigate burnout in this population to guide prevention and intervention efforts. The present study aims to assess the prevalence of burnout among undergraduate students in rehabilitation sciences and to identify whether certain disciplines within the field are disproportionately affected. This exploration will offer crucial insight into an under-researched area and serve as a foundation for future mental health strategies tailored to the unique challenges faced by these students.

## METHODS

An observational, cross-sectional study was conducted over a six-month period following formal approval from the Institutional Review Board (IRB) of the participating institutions. The study was carried out at two academic settings: PSRD College of Rehabilitation Sciences, Lahore, and FMH College of Allied Health Sciences, Lahore. The objective was to assess burnout levels among undergraduate students enrolled in rehabilitation sciences programs. A non-probability convenience sampling technique was employed to recruit participants. The minimum required sample size was calculated using the Raosoft online sample size calculator, based on a 95% confidence interval and a 5% margin of error, yielding a target of 160 participants. Students eligible for participation included both male and female undergraduates aged between 18 and 25 years, currently enrolled from the first to the final year of study in any of the following disciplines: Doctor of Physical Therapy (DPT), Speech and Language Pathology (SLP), or Occupational Therapy (OT). Students were excluded if they belonged to any discipline outside the field of rehabilitation sciences, had a systemic illness, were not

affiliated with the University of Health Sciences (UHS), or had experienced recent trauma or infection, to eliminate any confounding influences on burnout measurement.

The Copenhagen Burnout Inventory (CBI) was utilized as the primary instrument for data collection. To ensure contextual relevance for the target population, terminologies within the CBI were adapted: the term “work” in the work-related domain was operationally defined as “academic studies,” while “client” in the client-related domain was rephrased to refer to “class fellows and peers.” These modifications were made to preserve the theoretical framework of the CBI while enhancing its applicability to student experiences (12,13). The questionnaire was disseminated through two channels—online platforms and direct personal distribution by the primary investigator. Responses were collected and compiled confidentially, with demographic information including age, gender, academic year, and program of study. All data were analyzed using IBM SPSS Statistics version 26. Descriptive statistics were applied to characterize the study population, while appropriate inferential tests were used based on the nature and distribution of the variables. Ethical safeguards were thoroughly observed; participants were provided with comprehensive information regarding the study objectives prior to participation. Informed consent was obtained from all participants, and complete anonymity and confidentiality of their responses were maintained throughout the research process.

## RESULTS

A total of 160 students from rehabilitation sciences participated in the study, comprising 55 males (34.4%) and 105 females (65.6%). The age range of participants was between 18 and 25 years, with a mean age of 21.55 years and a standard deviation of 1.75. In terms of academic disciplines, 54.4% (n=87) were enrolled in Doctor of Physical Therapy (DPT), 23.8% (n=38) in Occupational Therapy (OT), and 21.9% (n=35) in Speech and Language Pathology (SLP). Most participants were in their third or fourth academic year (53.1%), followed by first or second year (31.3%), and the fifth year (15.6%). The chi-square test showed no statistically significant association between academic burnout and discipline in any of the three Copenhagen Burnout Inventory (CBI) domains ( $p>0.05$ ;  $r<0.5$ ). In the domain of personal burnout, 57.1% of SLP students experienced moderate to high burnout, the highest among all disciplines. DPT and OT students reported moderate to high personal burnout at 52.9% and 52.6%, respectively. For the work-related burnout domain, 49.4% of DPT, 48.6% of SLP, and 42.1% of OT students experienced moderate to high burnout levels. Notably, DPT students recorded the highest proportion with severe work-related burnout (3.4%). In the client-related burnout domain, 77.1% of SLP students reported moderate to severe burnout, followed by DPT (60.9%) and OT (42.1%). SLP students had the highest percentages of severe burnout in both personal and client-related domains. Overall, the prevalence of burnout was 75.5% for personal burnout, 68.8% for work-related burnout, and 61.3% for client-related burnout. The total proportion of students experiencing moderate to severe burnout across all domains was 68.6%.

**Table 1: Gender of participants**

Frequency of gender in rehabilitation sciences students.		
Gender	Frequency	Percentage
Male	55	34.4
Female	105	65.6
Total	160	100

**Table 2: Frequency of disciplines of rehabilitation science students**

Frequency of disciplines of rehabilitation sciences students		
Discipline	Frequency	Percentage
DPT	87	54.4
OT	38	23.8
SLP	35	21.9
Total	160	100.0

**Table 3: Frequency of academic year of rehabilitation sciences students**

Frequency of academic year of rehabilitation sciences students		
Academic year	Frequency	Percentage
1 <sup>st</sup> and 2 <sup>nd</sup> year	50	31.3
3 <sup>rd</sup> and 4 <sup>th</sup> year	85	53.1
5 <sup>th</sup> year	25	15.6
Total	160	100.0

**Table 4: Range of total Personal Burnout score**

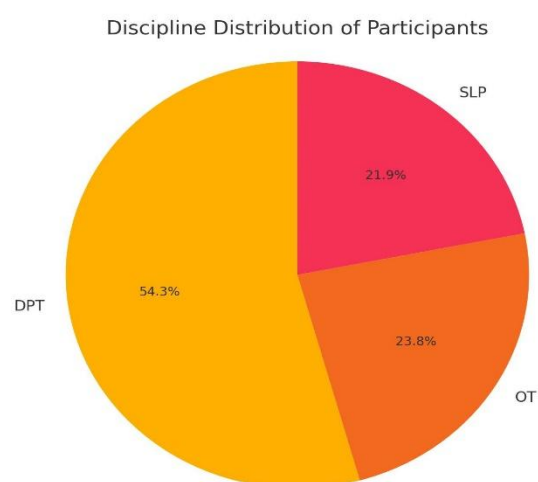
Discipline	Total Score of Personal Burnout				Total
	<50	50-74	75-99	100	
DPT	20	36	29	2	87
OT	8	21	8	1	38
SLP	11	17	6	1	35
	39	74	43	4	160

**Table 5: Frequency of total Work-Related Burnout score**

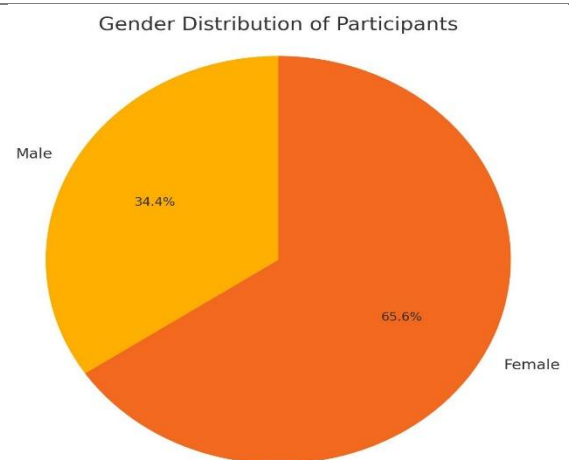
Discipline	Total Score of Work-Related Burnout				Total
	<50	50-74	75-99	100	
DPT	27	37	20	3	87
OT	14	20	4	0	38
SLP	9	19	7	0	35
	50	76	31	3	160

**Table 6: Frequency of Client-Related Burnout score**

Discipline	Total Score of Client-Related Burnout				Total
	<50	50-74	75-99	100	
DPT	25	31	27	4	87
OT	20	12	4	2	38
SLP	17	8	8	2	35
	62	51	39	8	160



*Figure 1 Discipline Distribution of Participants*



*Figure 2 Gender Distribution of Participants*

## DISCUSSION

The present study explored the prevalence and patterns of academic burnout among undergraduate students of rehabilitation sciences, a population often overlooked in burnout research. The findings indicated that a substantial proportion of students experienced moderate to high levels of burnout across all three domains of the Copenhagen Burnout Inventory (CBI) personal, work-related, and client-related burnout. This aligns with existing research on academic and professional burnout in medical and allied health students, reinforcing that educational pressure within health-related disciplines remains a significant contributor to emotional exhaustion and disengagement (14-16). One of the notable observations was the overall burnout prevalence of 68.6%, consistent with data previously reported in similar populations, such as medical students. This trend reaffirms that burnout is not limited to practicing professionals but can manifest early during academic training. Moreover, the study found that females demonstrated a higher tendency toward burnout compared to males, a result that reflects earlier findings attributing this difference to increased exposure to psychological stressors and heightened emotional responsivity (17,18). Similarly, students in senior academic years reported higher burnout levels than their juniors, echoing prior research indicating that academic stress intensifies with academic progression due to clinical exposure, examination pressure, and career uncertainty (19,20). Another critical insight was the students' unfamiliarity with the concept of burnout despite showing clinically relevant levels of emotional exhaustion, as assessed through the CBI. This disconnect raises concerns about under-recognition and the risk of untreated psychological distress, potentially leading to long-term mental health consequences. The qualitative observation during questionnaire administration suggested that unawareness of burnout symptoms might hinder students from seeking help or applying self-care strategies. The literature supports that self-awareness and proactive stress management strategies significantly reduce burnout levels and improve overall psychological well-being (21).

The domain-specific analysis revealed the highest burnout scores in the client-related domain, where the term "client" was adapted to include classmates and teachers. This finding highlighted the role of interpersonal academic relationships in student well-being. Previous studies have suggested that negative peer or faculty interactions may serve as substantial stressors, contributing to feelings of emotional detachment and dissatisfaction. Conversely, positive social support and empathetic learning environments have been associated with reduced burnout levels and improved academic engagement (21, 22). These outcomes emphasize the need for cultivating emotionally intelligent educational settings in rehabilitation programs. The study offers strength in its contextual adaptation of the CBI for a student population, ensuring relevance while preserving psychometric integrity. Additionally, it adds value by contributing data from an understudied demographic, broadening the scope of academic burnout literature. However, several limitations should be acknowledged. The use of a non-probability convenience sampling method may have introduced selection bias, affecting generalizability. The lack of multivariate regression analysis also limits the ability to control for potential confounding variables such as socioeconomic status, sleep patterns, and extracurricular workload. Furthermore, self-reported data may be subject to response bias, especially when sensitive psychological states are assessed. Future studies should adopt longitudinal designs to track burnout progression over time and incorporate interventions aimed at mitigating emotional distress among students. Gender-based coping strategies, curriculum load redistribution, and formal stress management training may prove beneficial. Additionally, examining institutional factors, such as mentorship quality and faculty support systems, may offer more actionable solutions. In conclusion, this study substantiates that academic burnout is prevalent among students in rehabilitation sciences and reflects broader patterns observed in health professions education. The findings underscore the importance of early identification, institutional support, and targeted psychological interventions to safeguard student well-being and ensure long-term professional efficacy.

## CONCLUSION

In conclusion, the study highlights a concerning prevalence of academic burnout among students of rehabilitation sciences, with varying intensities across disciplines and academic years. The findings emphasize that burnout is not confined to a specific program but is a shared challenge within the field, particularly affecting students approaching graduation. While no significant relationship was found between burnout and demographic variables, the results underscore the urgent need for institutional awareness and proactive strategies to address emotional well-being. By identifying burnout early in academic training, educational institutions can implement supportive interventions that promote resilience, mental health, and long-term professional success in future healthcare providers.

## AUTHOR CONTRIBUTION

Author	Contribution
Tarab Rasool	Substantial Contribution to study design, analysis, acquisition of Data Manuscript Writing Has given Final Approval of the version to be published
M. Usama Sohail*	Substantial Contribution to study design, acquisition and interpretation of Data Critical Review and Manuscript Writing Has given Final Approval of the version to be published
Kashaf Shahbaz	Substantial Contribution to acquisition and interpretation of Data Has given Final Approval of the version to be published
Tamkeen Abid	Contributed to Data Collection and Analysis Has given Final Approval of the version to be published
Sawera Sareer	Contributed to Data Collection and Analysis Has given Final Approval of the version to be published
Fatima Saifullah	Substantial Contribution to study design and Data Analysis Has given Final Approval of the version to be published
Samama Abdul Rehman	Contributed to study concept and Data collection Has given Final Approval of the version to be published

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