DOI: 10.21088/potj.0974.5777.18125.3

Physiotherapy and Occupational Therapy Journal
Volume 18 Number 1, January - March 2025

ORIGINAL ARTICLE

Prevalence of Work-Related Psychological Stress and Work Ability Among Physiotherapy Students

Amit Kumar Singh[1], Ridham Agrawal[2], Nayan Katkad[3], Arsalan Shaikh[4]

How to cite this article:

***Amit Kumar Singh, Ridham Agrawal** et al.* Prevalence of Work-Related Psychological Stress and Work Ability Among Physiotherapy Students. Physio. and Occ. Therapy Jr. 2025; 18(1): 19-25.

ABSTRACT

Background: The study of the health professions is extremely demanding and challenging which requires students to manage a complex learning and professional environment. For students to perform at their best in higher education settings, they need to be able to effectively deal with pressure. There is dearth of literature regarding stress and work ability among final year, interns and post graduate students. So, we intend to determine the prevalence of work-related psychological stress and workability among physiotherapy students.

Materials and Methods: A Google form questionnaire was created with survey-related questions from the Work Ability Index (WAI) and Perceived Stress Scale (PSS). Based on inclusion and exclusion criteria, a total of 106 physiotherapy students (aged 19 to 26) were chosen (convenience sample) from different physiotherapy institutions in Gujarat.

Result: there is persistence perceived stress and work ability among the physiotherapy colleges across Gujarat.

Conclusion: Majority of the population reported to have moderate level of perceived stress and excellent work ability

KEYWORDS:

• Work Ability Index • Perceived Stress Scale • Physiotherapy • Students

INTRODUCTION

The study of the health professions is extremely demanding and challenging which requires students to manage a complex learning and professional environment.[1] Globally, there is an increasing issue with students' perceived stress (PS) in all health professions. There is proof that students pursuing higher education,

AUTHOR'S AFFILIATION:

[1] Assistant Professor, Krishna School of Physiotherapy & Rehabilitation, KPGU, Vadodara, Gujarat, India.
[2-4]Interns, BITS Institute of Physiotherapy, Vadodara, Gujarat. India.

CORRESPONDING AUTHOR:

Amit Kumar Singh, Assistant Professor, Krishna School of Physiotherapy & Rehabilitation, KPGU, Vadodara, Gujarat, India.
E-mail: amit160288@gmail.com

➢ **Received:** 02-01-2025 ➢ **Accepted:** 15-02-2025

are under more stress than usual.[2] The recent growth of the profession, the increased rate of study and amount of new knowledge acquired, the changes in health needs and services, and the expanded range of responsibilities carried by the physical therapist are possible causes of the relatively high-stress levels among PT students.[3]

Stress is a result of or a general reaction to an event or situation that places demands on a person's physical, psychological, or both, which can result in serious limitations in a variety of areas of life.[4]

Studies have reported that medical students' levels of stress and depression rose as they moved from basic research to clinical instruction. In contrast, research by Tucker *et al*. found that physiotherapy students displayed considerably less academic stress in their fourth year, which is predominantly clinical.[5]

Medical students who are under stress become more aloof and indifferent, which makes it harder for them to handle and handle situations. These findings have been backed up by Chou *et al*., who contend that stress invariably affects learning, memory, problem-solving, and attention to detail.[6]

The Work Ability Index (WAI) is a tool used in clinical occupational health and research to assess workability during health examinations and workplace surveys. The index is determined based on the answers to a series of questions that take into consideration the demands of work, the worker's health status, and resources.[7-10]

The Perceived Stress Scale (PSS) is a well-known tool for measuring tension. The method is still used frequently to help us comprehend how various circumstances impact our emotions and sense of tension. This scale asks you about your emotions and ideas from the previous month. You will be prompted to say how frequently you experienced each emotion or idea. There are differences among the questions even though some of them are identical, so you should approach each one individually. It is preferable to respond fairly promptly. That is, instead of trying to determine how many times you experienced a certain emotion, suggest an alternative that seems like a fair estimate.[11,12]

For students to perform at their best in higher education settings, they need to be able to effectively deal with pressure. There is dearth of literature regarding stress and work ability among final year, interns and post graduate students. So, we intend to determine the prevalence of work-related psychological stress and workability among physiotherapy students.[13]

MATERIALS AND METHODS

Ethical clearance was obtained from institutional ethical committee, KSPR, Vadodara as per ethical guidelines for biomedical research on Human subjects, 2000 ICMR, New Delhi.

Study Design

Study Population: Physiotherapy Students

Study Setting: Physiotherapy colleges from Gujarat

Sample Design: Convenience sampling method

Sample Size: 106 students

Inclusion Criteria:

- Age group - 19 to 26 years
- Gender - both male and female
- Students having clinical exposure for at least 3 hours per working day
- Willingness to participate in the study

Exclusion Criteria:

- Students who have long-term health issues like diabetes, thyroid problems, cardiopulmonary problems, etc.
- Students with severe psychiatric disorders like schizophrenia, dementia, etc.
- Any prior fractures, operations, or infections anywhere on the body.

Materials Used:

- Google form

Outcome Measures:

1. Perceived Stress Scale (PSS)
2. Work Ability Index (WAI)

A Google form questionnaire was created with survey-related questions from the Work Ability Index (WAI) and Perceived Stress Scale (PSS). Based on inclusion and exclusion criteria, a total of 106 physiotherapy students (aged 19 to 26) were chosen (convenience sample) from different physiotherapy institutions

in Gujarat. Before the research began, the students received the appropriate training and information about it. The students' permission was obtained before the study was carried out. The students who were chosen for this study were given the questionnaire, and the answers were recorded for additional data analysis. The form was distributed among physiotherapy students of different colleges across Gujarat through social media.

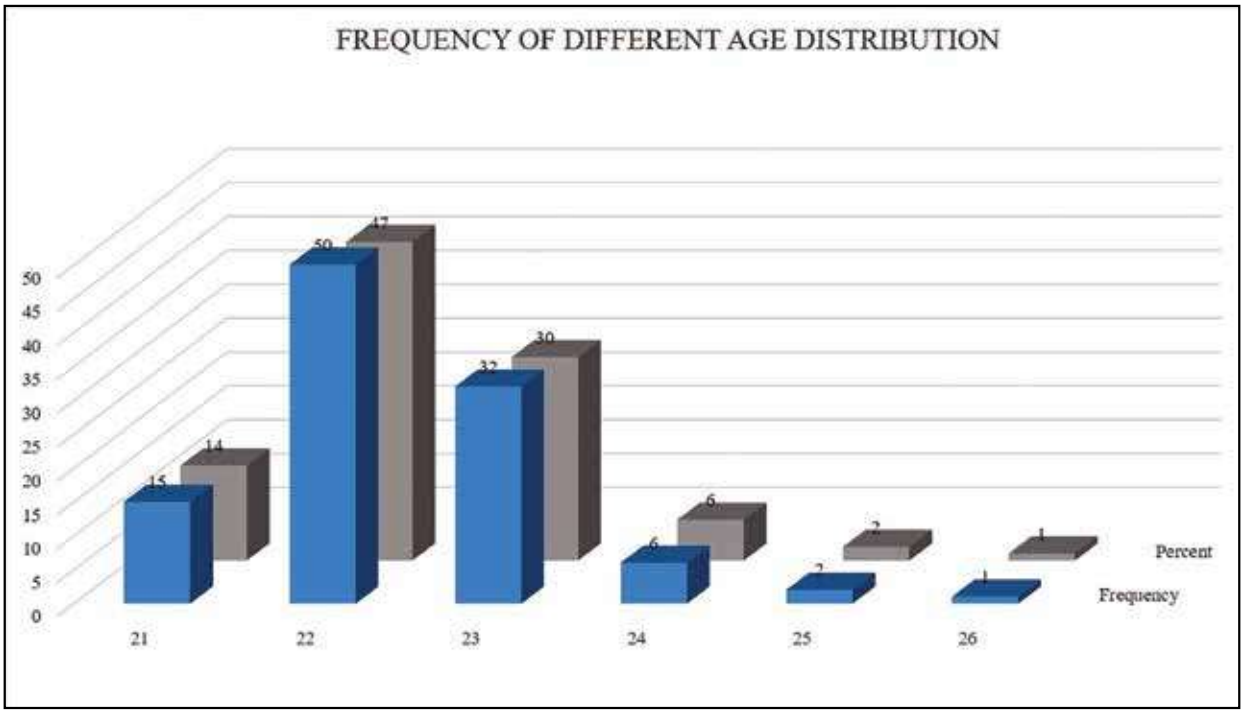
RESULTS & DISCUSSION

Results

In this study, physiotherapy students from different colleges across Gujarat were asked to fill a questionnaire via Google Form. WAI and PSS scale were included in the form. Scientific calculations were applied to the data obtained for analysis.

Table 1: Frequency of age distribution

Age (Years)	Frequency	Percent
21	15	14
22	50	47
23	32	30
24	6	6
25	2	2
26	1	1
Total	106	100



Graph 1: Frequency of Different Age Distribution

Interpretation: The above graph shows that as per data collection age group was 21-26 in which frequency of 22 years of age is found to be highest (47%) and that of 26 years of age was lowest (1%).

Table 2: Age Distribution in years

N	106
Mean	22
Std. Deviation	0.92

Interpretation: The above table shows that mean age of students is 22 ± 0.92 years for this study.

Table 3: Gender Distribution

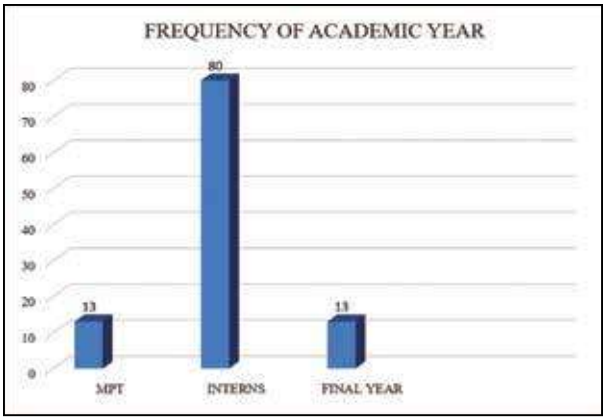
Gender	No.
Male	18
Female	88

Graph 2: Gender Distribution

Interpretation: As per the data collected in this study, 83% were females and 17% were male in total of 106 subjects.

Table 4: Frequency Academic Year

Academic year	No.	%
Mpt	13	12.26
Interns	80	75.48
Final year	13	12.26
Total	106	100



Graph 3: Frequency of Academic Year

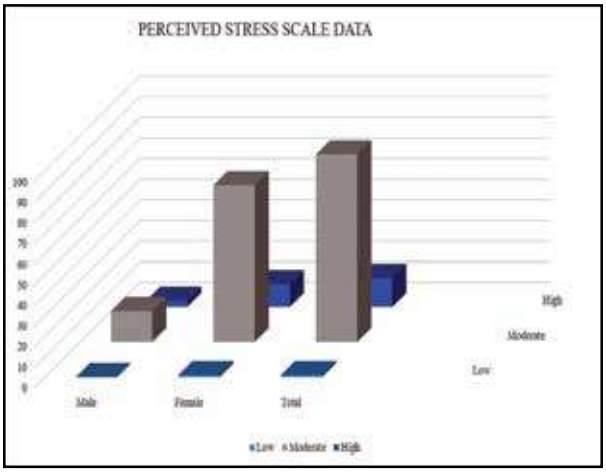
Interpretation: As per the above graph, maximum of the participants was Interns (75.48) and there were equal number of participants from Final Year and MPT students (12.26).

Table 5: City Distribution

City	Nos.	%
Vadodara	88	83.02
Surat	17	16.04
Godhra	1	0.94

Table 6: Percieved Stress Scale Data

Perceived Stress Scale Data			
	Low	Moderate	High
Male	0	15	3
Female	1	76	11
Total	1	91	14
Percent	0.94	85.84	13.20

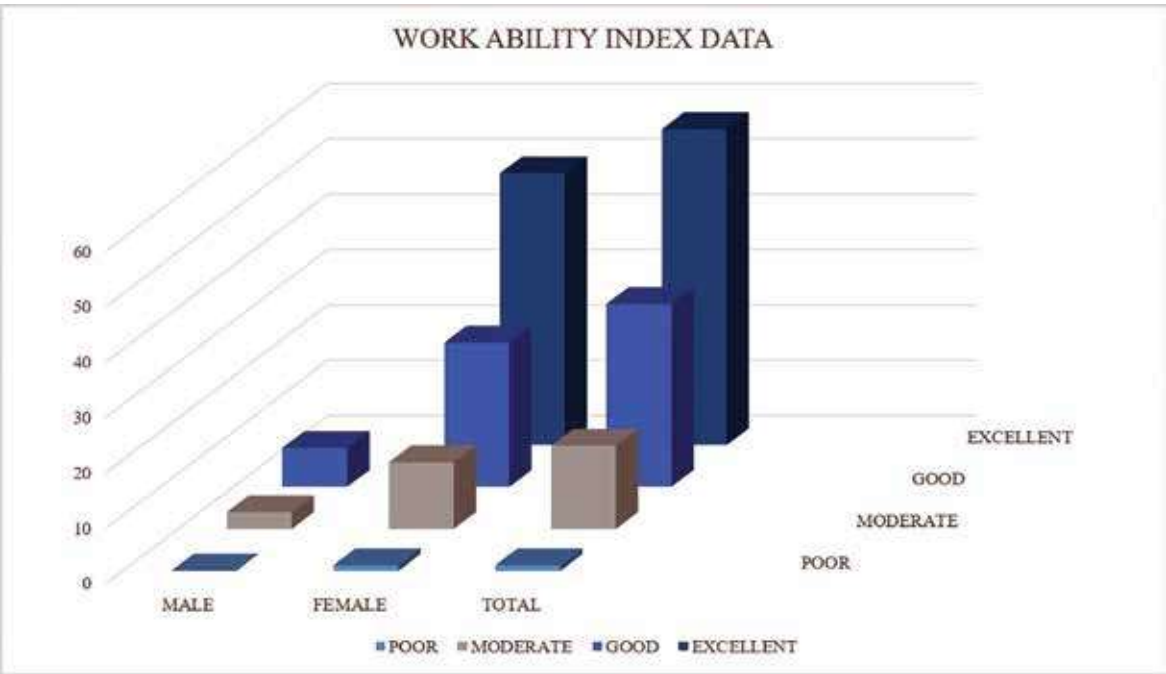


Graph 5: Perceived Stress Scale Data

Interpretation: The above graph indicates that according to the data collected, the students have high prevalence of moderate level of stress (85.84%).

Table 7: Work Ability Index Data

Work Ability Index Data				
	Poor	Moderate	Good	Excellent
Male	0	3	7	8
Female	1	12	26	49
Total	1	15	33	57
Percent	0.94	14.15	31.13	53.77



Graph 6: Work Ability Index Data

Interpretation: According to the graph obtained, there is high prevalence of excellent work ability among the subjects.

DISCUSSION

The dependent variable, Perceived Stress Scale, was used in this study. This is the most commonly used tool for stress perception. The scale includes a count of direct questions about current levels of stress. The PSS questions focus on emotions and thoughts from the previous month. The Work Ability Index was used as the other dependent variable. It includes questions about work, work ability, and the health of healthcare workers.

Total number of participants was 135 out of which 106 were selected according to the inclusive criteria. The data showed majority of participants to be Interns (75.48%). Majority of the participants were aged 22 with minority of aged 26.

Perceived Stress in physiotherapy students using Perceived Stress Scale (PSS-10):

Using the PSS-10, perceived stress levels were measured among the participants and found to be high in 13.2% of respondent students and moderate in 85.84% of respondent students. Only 0.94% of students indicated low level of stress. This indicates that, according to the PSS-10 outcome measure, 99.06% of the students in the sample reported moderate-to-high levels of perceived stress.

A scoping review conducted by Megan Edgelow, *et al*. confers that 'Trauma and stress-related mental health conditions can impact a person's ability to participate in work and can cause disruptions in employment'.

Our findings were similar to those obtained by Vinit Mody, *et al.* in their study on "Prevalence of Work-Related Psychological Stress and Work Ability among Nursing Students: A Cross Sectional Study" which reported 88% of the nursing students to have moderate level of stress.

Work Ability in physiotherapy students using Work Ability Index (WAI):

Using WAI, work ability was measured and was found to be excellent in 53.77% of students. Around 45.28% of students had moderate-to-good work ability whereas only 0.94% of student indicated poor work ability.

According to the study carried out by Patrick D. Gajewski, *et al* as "A systematic analysis of biological, sociodemographic, psychosocial, and lifestyle factors contributing to work ability across the working lifespan", Socio-demographic factors like marital status, raising underage children, housing situation, care of relatives, nutrition, and use of stimulants such as smoking or alcohol consumption were

not related to the WA. The WA was lower in the group with repetitive work compared to those working flexibly. It also reported that individuals who watched more than three hours of television per day had lower WA.

Our result obtained was similar to that of Vinit Mody, *et al* in their article they concluded that 60% of the nursing students had excellent work ability.[14]

The study's findings, which were based on scientific calculations, revealed that although physiotherapy students had a high prevalence rate of moderate level stress (~91%) in relation to their physical and psychological demands, they also had excellent work ability (~57%).

LIMITATIONS

- The sample size used in the current study, 106 physiotherapy students in total, was insufficient to detect a significant prevalence rate of work-related psychological stress and work ability among physiotherapy students.
- Since this was a one-time (longitudinal) study, there was no follow-up with the participants.
- It was not evenly distributed by gender.
- It is impossible to obtain statistics that are completely unbiased because the sampling was non-random.

RECOMMENDATIONS

- For better distribution and more significant results, future studies can be conducted using a larger sample size.
- Can be applied to much larger geographical area.

CONCLUSION

The current study shows that there is persistence perceived stress and work ability among the physiotherapy colleges across Gujarat. Majority of the population reported to have moderate level of perceived stress and excellent work ability. The female students tend to experience more stress, on average along with excellent work ability. There is less significance of students with low stress levels and poor work ability. Furthermore, interns were found to be more exposed to stress as compared to the students completing final year and post-graduation.

Conflict of Interest: None

Funding: None

Ethical Declaration: Ethical clearance was obtained from Institutional Ethical Committee, KSPR, Vadodara as per ethical guidelines for biomedical research on Human subjects, 2000 ICMR, New Delhi.

REFERENCES

1. Sabih, F., Siddiqui, F.R., & Baber, M.N. (2013). Assessment of stress among physiotherapy students at Riphah Centre of Rehabilitation Sciences. J Pak Med Assoc, 63(3), 346-49.
2. Tucker B., Jones S., Mandy A., *et al*. Physiotherapy students' sources of stress, perceived course difficulty, and paid employment: comparison between Western Australia and the United Kingdom. Physiother Theory Pract. 2006; 85: 1301-1317
3. Jacob, Tamar P.T., Ph.D.; Gummesson, Christina P.T., Ph.D.; Nordmark, Eva P.T., Ph.D.; El-Ansary, Doa P.T., Ph.D.; Remedios, Louisa P.T., Ph.D.; Webb, Gillian DipPhysio, MClinEd, DEd. Perceived Stress and Sources of Stress Among Physiotherapy Students From 3 Countries. Journal of Physical Therapy Education 26(3): pp. 57-65, Fall 2012.
4. Maia M.S., Dos Santos G.L., Porto C.C. Work-related stress among physiotherapists from the musculoskeletal area: An observational study. Work. 2022; 71(4): 1163-1173. doi: 10.3233/WOR-205195. PMID: 35253689.
5. Walsh J.M., Feeney C., Hussey J., Donnellan C. Sources of stress and psychological morbidity among undergraduate physiotherapy students. Physiotherapy. 2010 Sep 1; 96(3): 206-12.
6. Seham M. Alyousef, Psychosocial stress factors among mental health nursing students in KSA, Journal of Taibah University Medical Sciences, Volume 14, Issue 1,2019, Pages 60-66, ISSN 1658-3612.
7. Radkiewich P., Widerszal-Bazyl M. Psychometric Properties of Work Ability Index in the Light of Comparative Survey Study. International Congress Series 1280. The Netherlands Elsevier 2005; 304-309.
8. De Zwart B., Frings-Dresen M. Test-retest reliability of the Work Ability Index questionnaire, Occupational Medicine (London) 2002; 52: 177-181.
9. Ilmarinen J., Tuomi K. Past, present and future

of work ability. People and work research reports. Finnish Institute of Occupational Health, Helsinki 2004; 65: 1-25.

10. Tuomi K., Ilmarinen J., Jahkola A., Katajarinne L., Tulkki A. Work Ability Index, 2nd revised edition Finnish Institute of Occupational Health, Helsinki 1998.
11. Cohen S., Kamarch, T. and Mermelstein, R.A. global measure of perceived stress. Journal of Health and Social Behavior 1983; 24: 386-396.
12. Cohen S. Perceived Stress in a probability sample of the United States. In S. Spacapan and S. Oskamp (Eds). The Social Psychology of Health. Sage Publications 1988; 31-67.
13. Brooke, T., Brown, M., Orr, R. *et al*. Stress and burnout: exploring postgraduate physiotherapy students' experiences and coping strategies. BMC Med Educ 20, 433 (2020).
14. Vinit Mody, VrajBarot, Rucha Parolekar *et al.* Prevalence of Work-Related Psychological Stress and Work Ability among Nursing Students: A Cross Sectional Study. Indian Journal of Physiotherapy and Occupational Therapy 2022; 16(3): 98-102.