ISSN 2225-4439

Volume 12 December 2023

Jagannath University Journal of Psychology

A Research Journal of the Department of Psychology, Jagannath University
Dhaka-1100, Bangladesh

The **Jagannath University Journal of Psychology (JnUJP)** is an international research journal (blind-review), published by the Department of Psychology of Jagannath University, Dhaka-1100, Bangladesh. The journal is generally published once in a year as a single volume. The current publication is issued in December 2023. The language of the journal must be in English. The journal is a publication outlet of original empirical and theoretical papers, critical reviews, case studies, and meta-analysis that are fundamentally related to any aspect of psychology.

CORRESPONDENCE

Chairman (Editor-in-Chief of JnUJP)
Department of Psychology, Jagannath University, Dhaka- 1100, Bangladesh
E-mail: dr.akram@psy.jnu.ac.bd
Phone: +88-02-9583791 (Off)
Cell: +88-01718645841

SUBSCRIPTION

Single Volume: BDT 500 for domestic and US $50 for the international sale.

PUBLICATION

PRINTING

Biswas Colour Process and Scan
21-22 Patuatuli Road, 3/4, Ramakanta Nandi Lene, Dhaka-1100
Mobile: 01979-111688, 01619-111688

Jagannath University Journal of Psychology (JnUJP)

JOURNAL COMMITTEE

Jagannath University Journal of Psychology (JnUJP)

BOARD OF ADVISORS

Jagannath University Journal of Psychology (JnUJP)

CONTENTS

Jagannath University Journal of Psychology (JnUJP)

LIST OF REVIEWERS

1. Prof. Dr. Md. Nurul Islam, University of Chittagong
2. Dr. Shahinoor Rahman, University of Chittagong
3. Dr. Rumana Akter, University of Chittagong
4. Prof. Dr. Md. Nure Alam Siddique, University of Rajshahi
5. Dr. Mohd. Ashik Shahrier, University of Rajshahi
6. Dr. Md. Azharul Islam, University of Dhaka
7. Dr.Mollika Roy, University of Dhaka
8. Dr. Bipasha Singha, University of Dhaka

Jagannath University Journal of Psychology, Vol. 12, 1-11, 2023 ISSN 2225-4439

Research Article

Impact of Backpack Load on Physical and Mental Health of Private, Missionaries and Government School Children

Sumaiya Raka[1] and Asoke Kumar Saha[1]

Received date: January, 2024
Revised date: May, 2024
Accepted date: June, 2024

Abstract

The present study aimed to assess the backpack loads of children of Fifth graders in Dhaka City by examining the association between overload and health outcomes of fifth Graders in Dhaka City. Further, this study investigated whether the association between overload and health outcomes was moderated by the type of institutions (Government, Private, or Missionary). For this purpose, three hundred (148 male& 152 female) children's parents were chosen by purposive sampling method from Dhaka city. To measure the variables, a self-developed demographic questionnaire, an adapted Bangla version of Pediatric Symptom Checklist-35, and a Bangla version of the Child Health Questionnaire (Parent form-28) were administered to the respondents. Data were analyzed by applying analysis of variance (ANOVA). Results indicated that there were significant differences among the backpack weights of three type's school students (i.e., Private schools, Missionaries & Government). The ANOVA results indicated that private school students carry heavier backpack loads than missionaries and govt. school students which indicate that there is a close association between overload of backpack and children's wellbeing. Findings suggest that student's health is associated with poor physical and mental health such as back pain, neck pain, hand pain, stress, headache, concentration problems, and poor academic performance. The results of the study will help the researcher, parents, and academicians encourage a healthy atmosphere for private school children and raise their awareness of their bag weight.

Keywords: backpack loads, private, missionaries, government schools

Introduction

Backpack loads of school children are now widely discussed including the dignitaries of the Ministry of Education, Government of Bangladesh. Particularly among the students of preprimary and primary level of private and missionaries' schools in Dhaka City. At present, day-to-day school bags have been found to include. Students carry heavy books, pencil cases, rudder, pencil, scientific calculators, sports uniforms, school day uniforms and sport-specific training

[1]Department of Psychology, Jagannath University, Dhaka- 1100, Bangladesh

Corresponding concerning this article should be addressed to Asoke Kumar Saha**,** Jagannath University, Dhaka- 1100, Bangladesh. E-mail: asoke_saha@yahoo.com

clothing, lunch boxes and full water bottles. To address the requirement to carry backpacks weighted down by all these items, school children are often required to carry their backpacks, loaded with all of these items for long periods of time. In Dhaka city, guardians use to bring their school children on walk (almost 75%), rest 25% use to come to schools by cycle rickshaw, motorcycle, school van, private and or public vehicle etc. Research by Mackenzie et al. (2003) identified that children were carrying as much as 30% to 40% of their body weight. This recommended around 10% of the child's bodyweight as a maximum limit. However, recent research, in agreement with the earlier reviews suggests that these loads have a negative impact on physical health problems and mental health problems and children's bodies. Thus, it is justified to see the impact of backpack loads on school children's physical and mental health among the students of private, missionaries and govt. schools at grade 5, which also create lots of anxiety among the parents of the students.

Singh and Koh (2009) revealed that it is critical to understand the effects of increased backpack weight on children due to their developing bodies. Too much load on the body changes static and dynamic posture as the body tries to overcome the posterior shift in the center of mass. Negrini (2002) reported that the average daily loads of students over a week ranged from 22% body weight to 27.5% body weight with one student who carried 46.2%. In this group 38.8% carried more than 30% of their body weight According to the American Occupational Therapy Association (AOTA) backpack straps can. apply pressure to the blood vessels and nerves on child's shoulder and neck. The pressure can cause pain and tingling in his arms, hands, legs and neck. Well-padded straps can prevent too much pressure (Mackie et al., 2005).

Thus, it is important to know that how much weight the kids are carrying in their school bags every day. Also, there is not enough research for the country about this issue. Researchers have reported that weight and length of carrying backpack induces negative changes in students' shoulders and necks (Cleiton et al., 2014; Mohan et al., 2007). Furthermore, they believe that the main reason for physical problems of sitting and walking or even awkward posture must be sought in bad habits of carrying heavy loads like bags full of books, bags hanging from one side of the body or carried by one hand (Cleiton et al., 2014). So, it is the burning need of the country to study about this. For making a policy intervention a rigorous scientific study is useful to propose some recommendations to the Government. These will increase our existing knowledge about the impact of excessive backpack loads.

Overloaded book bags aren't only responsible for back injuries, although the main concern but heavy bags have also been found to cause neck pain, shoulder strain, headaches and general exhaustion. Book bags that weigh too much may also be a reason for some ankle injuries as they walk improperly under their oppressive weight. Backpacks can cause pain in the head, neck or face, as well as the hands, wrists, elbows, shoulders, feet and ankles. A badly worn backpack can change posture and gait when walking. Singh and Koh (2009) revealed that it is critical to understand the effects of increased backpack weight on children due to their developing bodies. In a study, it was found that with increased educational standards, there is an increased need for assignments outside of the classroom even at younger ages. This means books are getting larger and more abundant along with more outside homework assignments (Hamilton, 2000).

More than 2.5 million elementary school children carry books bags on their shoulder 5 days in a week for the entire school year. This is a large issue that needs to be addressed and this problem has been reported internationally. It was difficult to generalize the percentages for every school in a country. However, backpack weight has been associated with several factors, including age, grade, race, school, type of backpack used by students (Forjuoh et al., 2004).

A study investigated the influence of backpacks on spinal curves, shoulder level, trunk alignment and back pain in adolescent. The result showed that girls suffered from Dorsal Pain (DP) more often and with much more intensity than boys because of this (Hong & Cheung, 2003). According to children's health heavy backpacks can cause upper and lower back pain and neck strain. Poor posture caused by the backpack and the back pain can worsen the problem. Upper back pain was associated with school bag weight, school furniture features, emotional problems and previous treatment for musculoskeletal disorders. Low back pain was associated with school furniture features, emotional problems, family history and previous injury or accident.

Backpacks are a better option than shoulder or messenger bags for carrying books and supplies. That's because the weight of the pack is evenly distributed across your body. But a school bag should not be a burden on kids; it should function like a comfortable back pack which can easily be carried by school students without feeling any pain neither on shoulders, nor on back bone. Over time this can cause the shoulders to become rounded and the upper back to become curved. Because of the heavy weight, there's a chance of developing shoulder, neck, and back pain. A heavy backpack, especially when worn too low on the body, can start to pull on overworked neck muscles and subsequently cause headaches. The American Academy of Pediatrics recommends that child's backpack weight should not be more than 10 to 15 percent of their body weight. Recent trends show in Bangladesh that the kids who are usually study in private and/or missionaries' schools they use to carry the heavy backpack more than the recommended weight which causes different types of physical and mental health problem. Despite the importance of understanding this matter, there is a notable gap in our country addressing this specific issue. The gap hinders the development of evidence-based policies and interventions, potentially leaving them vulnerable to health risks associated with carrying heavy backpacks. By examining this, researchers aim to understand if overloaded backpacks contribute to health issues. Additionally, exploring whether the type of institutions (e.g., public vs. private schools) moderates this association could provide insight to this issue.

Aims of the Current Study

1. The first aim of the research is assessing the backpack loads of children of Fifth graders in Dhaka by examining the association between overload and health outcomes (e.g., Physical and Mental Health).
2. The second aim is to investigate whether the association between overload and health outcomes is moderated by the type of institutions (Government, Private or Missionaries).

Method

Participants

The target population of this study was the 5th grade student's parents of primary schools at Dhaka city. A total of 8 schools have been selected randomly in which 2 missionaries/ 3 private and 3 government primary schools have been selected to collect the data. All those 8 schools have been selected over all other private/missionaries and Government schools. Total 300 student's data have been selected from the private/missionaries' schools in which there were 148 males and 152 females. Thus, a total of 300 students' data were taken from their parents by using the purposive sampling method from Dhaka. The 100 data were collected from private schools, 100 were collected from missionaries' schools and 100 data were also collected from Government schools. It is to be noticed that all members were affirmed that their cooperation was intentional and their answers could stay confidential.

Measures

Pediatric Symptom Checklist (PSC-35)

The PSC-35 is developed by Jellinek and Murphy (1988). The Bengali version of PSC-35 is developed by the researcher for collecting data easily according to the parent's needs. It is designed specifically for use by the pediatrician to screen for mental health problems in children ages 3 to 18 years in the primary care setting. It consists of 35 items that are rated as never, sometimes or often present (scored 0, 1, and 2, respectively). Item scores are summed and the total score is recoded into a dichotomous variable indicating psychosocial impairment. A score of 28or higher indicates high risk. For children aged 6 through 16 years, the cutoff score is 28 or higher. A score of 28 or higher means that he/she has more problems than most other children of that age (ages 6-16). For 4 and 5 year old children, the PSC cutoff is 24 or higher indicates higher risk. Most children in this group would benefit from further assessment (ages 4-5). The PSC-35 total score is calculated by adding the 35 individual scores, so the total score will be 0 to 70. Items that are left blank are simply ignored (i.e., score equals 0). One approach to facilitating recognition and referral of psychosocial problems is to use a parent-completed screening questionnaire as part of routine primary care visits. The Pediatric Symptom Checklist (PSC) was developed for this purpose. It is valid and reliable instrument. The PSC-35 has reliability for the total score (Cronbach's alpha=0.91). The test-retest reliability is .84 -.91 and validity of the PSC was good for school aged children.

Child Health Questionnaire (CHQ-PA, Parent Form-28)

The CHQ-28 is a measure that provides information from either parent or child report in the areas of general and specific health and their relationship to physical, emotional and social roles relevant to age and development. The CHQ is developed in 1990 and released by Landgraf et al., 1996. The Bengali version of CHQ is developed by the researcher for collecting data from parents, easily. The 50-item parent form (CHQ-PF50) for school age children of about 4 or 5 years and older, item scaling analysis have been applied to derive a shortened CHQ-PF 28 from the CHQ-PF 50. The CHQ-28 is designed for children 5 years of age and older. CHQ-PF 28 items

have four, five, or six response options, divided over eight multi-item scales and five single item concepts. Per scale, the items are summed up (some recoded/recalibrated) and transformed into a 0 (*worst possible score*) to 100 (*best possible score*) scale. Respondents were asked to indicate on a 0–100 VAS, labeled from worst to best imaginable health state, how good or how bad they felt their child's current health state to be. CHQ-28 has internal consistency (Cronbach's alpha of 0.62-0.83), Cronbach's alpha was used to evaluate the internal consistency of the CHQ scales. Test-retest in trackless correlation coefficients 0.70 or higher was considered to show excellent test-retest reliability and 0.50–0.70 to indicate moderate test-retest reliability. On the other hand, Convergent validity of this scale was found to be acceptable.

Procedure

Before administering the test, necessary administering protocol was followed by the investigators (such as permission granted from the school authority, rapport establishment with the student's parents, explained the nature of the study and confidentiality. The questionnaires were distributed to parents or guardian of students in the school. This can be done as physical copies given out during student's class time or other school events.

In 1st step, during data collection, we met with parents and distributed the Bengali version of questionnaires to parents or guardian of students in the school. This can be done as physical copies given out during school events where parents can be found or available. Parents were also provided detailed instructions as to how the questionnaires were to be completed. They were instructed to give information about their children's health in the questionnaires. The respondents instructed to read all of the items of the scale attentively and to respond attentively. Moreover, in other day, for getting more information about this issue, some student's bag weight in KG school children have been taken by Digital Balance. At last, the researchers thanked all the participants for their sincere co-operation. All the subjects were treated individually for each condition. Parents were encouraged to ask any questions they might have and they were informed of their right to withdraw from the study at any time. After the performance, all the respondents were thanked for their cooperation and participation in the study.

Participant's responses were scored according to the scoring system of the scale. SPSS (version 23) was used to analyze the data. The following statistical analyses were concluded, such as descriptive statistics, and one-way ANOVA.

Results

The general rationale for the present study was assessing the backpack loads of children of Fifth graders at Dhaka City by examining the association between overload and health outcomes. The second objective was to investigate whether the association between overload and health outcomes was moderated by the type of institutions (Government, Private or Missionaries) of 5thgrade students at Dhaka city. Further, the study was continued to find out the difference in weight of bag among these three types of schools' students. Toward this end, data were collected from 300 student's parents to know about their children's health.

Results presented in Table 1 indicate that in the Pediatric Symptom Checklist scale, there

was significant differences in conditions of mental health due to over backpack loads among private, missionaries and government schools. Mean differences showed that private schools (64.16) students had more backpack loads on students which leads to more behavioral or mental health problem such as not sleeping, anxiety, stress, loneliness, and difficulties with teachers or parents than Missionaries schools' students (49.79) and government schools' students (31.91). In this scale, it showed that Government schools students had good behavioral and mental health as their backpack loads were less.

Table 1

Mean Differences for Examining the Association between Overload and Mental Health Outcomes (found in Pediatric Symptom Checklist Scale)

Participants	*Mean*	*SD*	*SE*	*F*	*p*
Private	64.16	11.185	1.119		
Missionaries	49.79	20.085	2.009	137.12	.001
Government	31.91	6.526	.653		

Results presented in Table 2 indicated that there was significant difference in physical health due to over backpack loads among private, missionaries and government schools. Mean differences showed that private schools' students had more backpack loads on students which leads to more physical health problem such as back pain, headache, neck pain, decline in physical activities, hand pain than Missionaries schools' students and government schools' students. In this scale, it showed that Government schools students had good physical health as their backpack loads were less (Figure 1).

Table 2

Mean Differences for Examining the Association between Overload and Physical Health Outcomes (found in Child Health Questionnaire)

Participants	*Mean*	*SD*	*SE*	*F*	*p*
Private	56.78	8.252	.546		
Missionaries	44.22	16.389	1.639	155.51	.001
Government	29.25	5.456	.825		

Results presented in Table 3 showed that the mean and standard deviation of the weight of bag of private school students were 3.40 and .516 and the mean and standard deviation of the weight of bag of Missionaries school students were 2.40 and .516. Lastly, the mean and standard deviation of weight of bag in KG of Govt. school students were 1.20 and .422. The result suggested that there was a significant difference in weight of bag in KG of private school students, missionaries and weight of bag of govt. school students. The results showed that private

school students carried more bag weight than missionaries' school students. Also, Govt. school students carried less bag weight than private and missionaries school students. Table 4 revealed that there was a significant difference between group and within groups of weight of school bag in relation to their three types of schools.

Figure 1

Mean of Relative Bag Weight (RBW) Differences among Private, Missionaries and Govt. School Students.

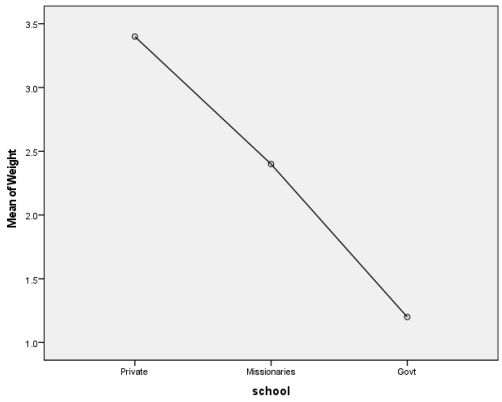


Table 3

Mean Differences in terms of Relative Bag Weight (RBW) in KG among Three Types of School Students (f*ound in Digital Balance)*

			95% confidence interval			
Participants	*Mean*	*SD*	Lower Bound	Upper Bound	Min	Max
Private	3.40	.516	3.03	3.77	3	4
Missionaries	2.40	.516	2.03	2.77	2	3
Government	1.20	.422	.90	1.50	1	2

Table 4

Analysis of Variance (ANOVA) involving Differences in Relative Bag Weight (RBW) in KG of 5th Grade Students among Private, Missionaries and Govt. Schools

Sources of variance (SV)	Sum of Squares (SS)	*df*	*Mean Square*	*F*	*p*
Between Groups	24.267	2	12.133	51.187*	.001
Within Groups	6.400	27	.237		

Discussion

The present study was conducted to assess the Backpack Loads of children of Fifth graders at Dhaka city by examining the association between overload and health outcomes. Among them, 152 were female children and 148 were male children of fifth graders. A Bengali version of Pediatric Symptom Checklist was used to measure mental health and Bengali version of Child Health Questionnaire was applied to the subjects to measure the physical health of them.

The first aim of the study was to assessing the backpack loads of children of Fifth graders at Dhaka City by examining the association between overload and health outcomes. The result showed in the Bengali version of Pediatric Symptom Checklist that 5th grader children of schools' experience more mental health problems. Such as anxiety, sadness, day dream, anger, irritability, hopelessness, absenteeism in class, more sleep problems and so on. On the other hand, Results in Bengali version of Child Health Questionnaire showed that 5th grade school students experience poor physical health also. Such as doing things that take a lot of energy, back pain, more bodily pain or discomfort, had difficulty concentrating compared to missionaries and govt. school children. So, there is close association between overload and health outcomes. In the mental setting, polls were conveyed to acquire the reaction of the understudies about the weighty school back. The survey was directed to search for information on the kind of school packs utilized, and low back agony presence, and the time went through consistently carrying the school bags to and from school (Grimmer et al., 2007). Bauer and Freivalds (2009) have done the exploration to discover the effect on the pulse and a few investigations have been done among understudies in different nations about burden carriage. The investigations demonstrated that 10-15% percent of their body weight is the satisfactory burden. The exceeding burden may harm them in such a way example, helpless stance and shoulder gloom.

The second aim was to investigate whether the association between overload and health outcomes is moderated by the type of institutions (Government, Private or Missionaries) of 5th grade students at Dhaka city. The findings of the study suggests that Private school students may experience more backpack loads and subsequently have poorer physical and mental health compared to students in Government and Missionary schools. From the Table of ANOVA which showed mean differences, it was found that impact is higher in students of private schools. Private school students carry more textbooks, materials as per the demands of their institution and this creates back pain, shoulder pain, stress, they experience more anxiety than other type of institutions. This finding is consistent with previous research which suggests private schools may have more rigorous academic programs and higher expectations for students. One study showed that there was significant difference between the RBW in private and governmental schools in which RBW in the former was significantly higher than the latter one.

In private schools, about 56.3% of the students carried backpacks weighing more than 10% of their body weights versus 33.6% in governmental schools (Abolfazl et al., 2013). The majority of students (83.4%) carried their bags over two shoulders, 12.6% used single strap bags carried by one hand and 4% had bags with wheels. Items carried in students' backpacks were mainly included text books, exercise book, folders, small instruments, lunch boxes and electronic devices but, the most common items were text and exercise books. Although 38.7.3% of overall

parents had at some point checked the contents of their child's backpack but this rate for private school (76.8%) was higher than that of governmental schools (Abolfazl et al., 2013). As a result, private school students carry more loads and textbooks, materials, leading to heavier backpacks. Result in ANOVA shows that there were significant differences in state of physical and mental health due to backpack loads of students of private, missionaries and govt. schools. Govt. schools' students show good physical and mental health compared to private and missionaries' schools. Result in ANOVA also shows that there were significant differences in bag weight of private, missionaries and govt. school students. Private school students carry more weight and Govt. school students' backloads were less than missionaries and private. The child may also find it difficult to put the bag on and take off, or he falls frequently in school while carrying his school bag" (Rai et al., 2013). Rebelatto et al., (1991) in their study also observed that children carrying school supplies with the use of backpacks with upward fixation perform anterior flexion of the trunk with increased lumbar muscles demand. However, both may determine pains due to metabolic changes in muscle tension and the spine. Pascoe et al., (1997) suggest that backpacker's weight distributed evenly by the two shoulders is a very efficient method, in energy terms, compared to any other way to transport the teaching material.

Conclusion

In conclusion the result of the study indicated that there are strong association between backpacks and children's well-being. It also has impacted the student's health of Private schools more than Government. So, some steps should be taken to lighten the load of backpack, educate parents and students about it for caring correctly school backpack so that they can use correctly on their shoulders. The study's findings may be limited by the sample size and representatives of the participants. The use of cross-sectional design limits causal inference. They can only indicate relationships at a specific point in time. The future research can consider longitudinal studies to explore causal relationships over time. It may also investigate potential moderating factors (e.g., school type, carrying techniques) that may influence the association between backpack loads and health outcomes.

References

Barkhordari, A., Ehrampoush, M.H., Barkhordari, M., Derakhshi, F., Barkhordari, M., & Mirzaii, M. (2013). Assessment of school backpack weight and other characteristics in elementary schools, Yazd, Iran. *Journal of Community Health Reseach, 2*(1), 2-7

Bauer, D. H., & Freivalds, A. (2009). Backpack load limit recommendation for middle school students based on physiological and psychophysical measurements, *Work (Reading, Mass.) 32*, 339–350.

Cavallo, C. M., Hlavaty, T. M., & Tamase, M. G. (2002). A pilot study for the development of a primary prevention program: What is the average weight of a fourth grader's backpack? *Workload,* 20, 137-158.

Chowdhury, M. H., Karim, R., Barbhuiya, A. M., & Rahman, H. (2018). Prevalence of physical stress on the school going students in relation to their body weight and heavy backpack. *East African Scholars Journal of Medical Sciences, 1*(1).www.easpublisher.com

Chua, C. T., Marquez, G. A. B., Mendez, T. B., & Reyes, J. E. A. (2019). A study of the design for trolley school bag of elementary children in grades 1-3 using the National Institute for Occupational Safety and Health (NIOSH) Lifting Equation. *Proceedings of the International Conference on Industrial Engineering and Operations Management Bangkok, Thailand*, 498–509.

Dhabhekar, S. G., & Kamble, R. K. (2022). School bags effects on students' health in Chandrapur City, Central India. *Ethiopian Journal of Environmental Studies & Management, 15*(2), 229 – 243.

Dipjyoti, D., & Goswami, D. (2020). Heavy weight school bag and its impact on the physical health of the children. *Palarch's Journal of Archaeology of Egypt/Egyptology, 17*(9).

Grimmer K., & Williams M. (2007). Gender-age environmental associates of adolescent low back pain, *Applied Ergonomics, 31* (7), 343–360.

Hamilton, A. (2000). Prevention of injuries from improper backpack use in children. *Work, 16,* 177-179

Hollins, J. E. (2012). The influence of backpack chest straps on physiological and performance variables associated with simulated road marching. *Montana State University*, 1–71.

Hong, Y., & Cheung, C. K. (2003). Gait and posture responses to backpack load during level walking in children. *Gait and Posture, 17*, 28-33.

Hussain, S. G., Rehman, A. U., & Siraj, M. (2022). Impact of heavy school bags on physical health of school going children: a case study of primary level schools of district Lasbela, Pakistan. *Impact of Heavy, 5*(2), 287–300.

Jellinek, M. S., Murphy, J. M., Little, M., Pagano, M E, Comer, D. M., & Kelleher, K. J. (1999). Use of the pediatric symptom checklist to screen for psychosocial problems in pediatric primary care: A national feasibility study. *Archives of Pediatrics & Adolescent Medicine, 153*(3), 254–260. https://doi.org/10.1001/archpedi.153.3.254

Karim, D. R. A., Ali, S. I., & Thalho, N. P. (2021). A research project regarding the effects of heavy school bags on the physical health of students of primary level in Karachi, Palarch's. *Journal of Archaeology of Egypt/Egyptology, 18*(8), 3327–3343.

Mackenzie, W. G., Sampath, J. S., Kruse, R. W. & Sheir-Neiss, G. J. (2003). Backpacks in children. *Clinical*

Mackie, H., Stevenson, J., & Reid, S. (2005). The effect of simulated school load carriage on shoulder strap tension forces and shoulder interface pressure. *Applied Ergonomics, 36,* 199-206.

Magrabi, N. M., Mahmoud, S. R., & Yousef, Y. E. (2015). Awareness of parents about school backpack and its related musculoskeletal disorders in Assiut City. *IOSS Journal of Nursing and Health Science, 4*(6), 5–11.

Matlabi, H., Behtash, H. H., Rasouli, A., & Osmani, N. (2014). Carrying heavy backpacks and handbags amongst elementary students: Causes and solutions. *Science Journal of Public Health, 2*(4), 305-308. https://doi.org/10.11648/j.sjph.20140204.20

Mihailova, A., Kaminska, I., & Bernane, A. (2014). Physical activity in physiotherapy and physical education high school students. *SHS Web of Conferences, 10,* 25-35.

Negrini, S., Caranalona, R., & Sibilla, P. (2002). Backpack as a daily load for school children. *The Lancent,* 354.

Neiss, G., & Kruse, R., Rahman, T., Jacobson, L., & Pelli, J. (2003). The association of backpack use and back pain in adolescents. *Spine, 28*, 922–930.

Nurulinzany., Bakri, I., & Asmal, S. (2021). Correlation between backpack weight and shoulder pain in children aged 6-11 (A case in elementary school in Makassar Indonesia). *IEOM Society International, 14*(16), 3436–3443.

Paula, A. J. F., Silva, J. C. P., & Silva, J. C. R. P. (2015). The influence of load imposed by the backpack school in children and teens in Brazil. *Procedia Manufacturing, 3*, 5350–5357. https://doi.org/10.1016/j.promfg.2015.07.645

Perrone, M., Orr, R., Hing, W., Milne, N., & Pope, R. (2018). The impact of backpack loads on school children: A Critical narrative review. *International Journal Of Environmental Research and Public Health*, *15*, 2529, 1–25. https://doi.org/10.3390/ijerph15112529

Raat, H., Botterweck, A. L andgraf, J., Hoogeveen, W., Essink, B., & Marie, L. (2005). Reliability and validity of the short form of the child health questionnaire for parents (CHQ-PF28) in large random school-based and general population samples. *Journal of Epidemiology and Community Health, 59*, 75–82. https://doi.org/10.1136/jech. 2003.012914.

Rai, A., & Agarawal, S. (2014). Effect of postural discomfort on school-going children carrying heavy backpacks. *IOSR Journal of Humanities and Social Science, 3* (12), 2482–2484.

Rai, A., & Agarwal, S. (2015). Effect of weight of backpack and physiological stress among school going children. *International Journal of Research*, 3(54), 288–292.

Rai, A., Agarwal, S., & Bharti, S. (2013). Postural effect of back packs on school children: Its consequences on their body posture. *International Journal of Health Sciences and Research, 3*(10),109–116.

Rontogiannis, D., Tsaklis, P., Mavromoustakos, S., & Kottaras, S. (2017). Comparison between two different types of school bags and musculoskeletal symptoms in primary school students. *IETI Transactions on Ergonomics and Safety*, *2*(1), 11–21.

Salehzadeh, K., & Bonab, R. P. (2015). Kyphosis and its relationship with the weight of backpack and bag of female students. *Journal UMP Social Sciences and Technology Management, 3*(3), 722–729.

Sankaran, S., John, J., Patra, S. S., Das, R. R., & Satapathy, A. K. (2021). Prevalence of musculoskeletal pain and its relation with weight of backpacks in school-going children in Eastern India. *Frontiers in Pain Research*, *2*, 233–252.

Singh, T., & Koh, M. (2009). Effects of backpack load position on spatiotemporal parameters and trunk forward lean. *Gair and Posture, 29,* 49-53.

Whittfield, J., Legg, S. J., & Hedderley, D. I. (2005). School bag weight and musculoskeletal symptoms in New Zealand secondary schools. *Journal of Spine, 36*(2), 193-198.

Zakeri, Y., Baraz, S. H., Gheibizadeh, M., & Saidkhani, V. (2016). Relationship between backpack weight and prevalence of Lordosis, Kyphosis, Scoliosis and Dropped Shoulders in elementary students. *International Journal of Pediatrics, 4*(6), 1859–1866.

Jagannath University Journal of Psychology, Vol. 12, 12-20, 2023 ISSN 2225-4439

Research Article

Effects of Nature of Job on Political Skill Behavior and Psychological Well-being of Teachers

Ginia Mirdha[1,2], Muhammad Akram Uzzaman[1], and Tanzid Ahmad Tanoy[2]

Received date: October, 2023
Revised date: March, 2024
Accepted date: May, 2024

Abstract

The study aimed to explore if teachers' job natures affect their political skill behavior and psychological well-being. A cross-sectional study was conducted on 90 teachers (45 male and 45 female) from government and non-government primary, high school, and college. Participants were selected by convenient sampling techniques and data were collected by using Bangla version of the Political Skill Inventory and Psychological Wellbeing Scale. Analysis using one-way ANOVA revealed significant differences in political skill and psychological well-being among the teachers of different institutions indicating that political skill and psychological well-being vary according to nature of educational institutions. The results also showed that government high school and college teachers have higher levels of political skill (and psychological wellbeing behavior. Post-hoc comparison also revealed that only three (political skill behavior) and four (psychological well-being) treatment levels differed significantly. The results were interpreted based on prior research. Hence, the results of this study reveal the importance of teachers' political skill behavior and psychological well-being in the context of Bangladesh.

Keywords: political skill, psychological well-being, nature of job, teachers

Introduction

Without qualified teachers who are politically astute and have a positive psychological well-being, no education will be of high quality. Political skill is defined as the ability to effectively understand others at work and to use such knowledge to influence others to act in ways that enhance one's personal and/or organizational objectives (Ferris et al., 2005). Politically skilled individuals appear to be more resistant to the potentially detrimental effects of work-related stress. There are four critical dimensions of political skill: social astuteness, interpersonal influence, networking ability, and apparent sincerity. Social astuteness is a crucial trait for individuals to understand social interactions and accurately interpret their own and others' behavior (Perrewé et al., 2000). Interpersonal influence involves individuals adapting their

[1]Department of Psychology, Jagannath University, Dhaka-1100, Bangladesh.
[2]Department of Psychology, University of Dhaka, Dhaka-1000, Bangladesh.
Correspondence concerning this article should be addressed to Ginia Mirdha. Department of Psychology, Jagannath University. Email: giniamirdha2014@gmail.com

behavior to different situations and receiving desired responses from others, demonstrating flexibility. Individuals with higher political skill excel in identifying and developing diverse networks, creating and leveraging opportunities, demonstrating their commitment to networking. Apparent sincerity refers to honesty and forthrightness, supporting the robustness of political skill structure (Ferris et al., 2007). Teachers with political expertise foster positive interactions between teachers, principals, and students, fostering job satisfaction. They also excel at collaborating with colleagues and bringing stakeholders together. Teachers with effective political skills can achieve both individual and organizational objectives (Uğurlu & Bostancı, 2017). Primary school teachers with political skills respond promptly and manage stress and anxiety effectively. School with politically skilled teachers have a more positive climate and run more efficiently (Aslan & Pektaş, 2017).

Understanding teachers' well-being is important, and it depends on self-acceptance, positive connections, autonomy, environmental mastery, life purpose, and personal growth. These things all contribute to how happy and satisfied teachers are in their jobs (Ryff, 1989). Self-acceptance involves a positive attitude towards oneself, including strengths and weaknesses. Positive relationships with others are characterized by powerful, warm, gratifying, and trustworthy affection. Autonomy allows individuals to control behavior, work towards independence, and evaluate themselves. Environmental mastery enables individuals to manage challenging activities and seize opportunities. A strong life purpose and clear goals are essential for success.

The psychological well-being of teachers is a growing concern in countries. Perrewe´ et al. (2004) reported that political skill was negatively related to psychological anxiety and to somatic complaints. A study in Malaysia found that 43% of teachers' experience depression, 68.0% anxiety, and 32.3% stress symptoms. These findings highlight the emotional well-being of teachers and the need to address psychological challenges in the education system (Othman & Sivasubramaniam, 2019). In Bangladesh, various research has been established to investigate the factors contributing to the satisfaction and dissatisfaction among primary school teachers (Sultana et al., 2017); among secondary school teachers in Bangladesh (Jahan & Ahmed, 2018). But there is no research focusing on political skill behavior and psychological wellbeing in terms of their nature of job. This research aims to address the gap in research on political skill and psychological wellbeing among teachers in educational institutions.

In Bangladesh, education encompasses various teaching professions, including primary school, high school, college, and university teachers. This research includes primary, high school, and college teachers, not university teachers. Schools and colleges can be government or non-government, with teachers in these institutions being government and non-government primary school teachers, government and non-government high school teachers, government and non-government college teachers.

This research aims to address the gap in research on political skill and psychological wellbeing among teachers in educational institutions. Aslan and Pektaş (2017) stated that the achievement of teachers in their planned pursuits could only be possible by the successful conduct of their political behaviors. Moreover, psychological well-being has a critical importance in terms of teaching profession (Kyriacou, 2001), which is a profession with high levels of stress. Despite

numerous studies on the effects of political skill on organizational performance, few have focused on the relationship between political skill and psychological well-being. The findings may be helpful for researchers, teachers, and policy makers to understand the effect of job nature on teacher's political skill behavior and psychological well-being. This research is important not only for Bangladesh but also for the world, benefiting researchers, practitioners, policymakers, teachers, and educational institutes.

Research Questions

After reviewing the literature, the study was designed to answer two major questions.

1. Is there any effect of the nature of job on teachers' political skill behavior?
2. Is there any effect of the nature of job on teachers' psychological well-being?

Hypotheses

H1: There will be an effect of the nature of job on teachers' political skill behavior.

H2: There will be an effect of the nature of job on teachers' psychological wellbeing.

Method

Participants

To conduct this study a cross-sectional survey research design was used. Convenient sampling technique was used for collecting data. A total of 90 young adult teachers participated as respondents from Dhaka and Narayanganj of Bangladesh. The remaining 30 participants were from primary school (15 from government primary school and 15 from non-government primary school), 30 participants were from high school (15 from government high school and 15 from non-government high school), and 30 participants were from college (15 from government college and 15 from non-government college). The respondents' ages ranged from 18 to 60 years (M = 41.74, SD = 7.35). There were 45 male participants and 45 female participants.

Measures

Political Skill Inventory (PSI; Ferris et al., 2005)

Ferris et al. (2005) developed an 18-item scale consisting of four components: social astuteness, interpersonal influence, networking ability, and apparent sincerity to measure political skill, . The scale has acceptable internal consistency reliability (α = .90) and high convergent and discriminant validity. The composite score of political skill is calculated by summarizing scores on all subscales, with higher scores indicating greater political skill, and respondents were asked to indicate agreement on a seven-point likert scale. In Bangladeshi culture, the scale has been validated again. The adapted scale (Uzzaman & Ahamed, 2020) has good face and content validity. The internal consistency for political skill (α = .89) indicates good reliability of the scale in the context of Bangladesh.

Psychological Wellbeing Scale (PWS; Ryff, 1995)

The Psychological wellbeing scale, an 18 items scale developed by Ryff (1995), measures adults' wellness in six components: self-acceptance, personal growth, purpose in life,

positive relationships with others, environmental mastery, and autonomy. The scale is internally consistent and has Cronbach alpha reliability coefficients ranging from .33 to.56. Its convergent validity ranges from .70 to.89. The study calculates psychological wellbeing by summarizing scores on subscales and combining them to form a composite score. Respondents rate statements on a six-point Likert scale, with negative responses revised for higher positive functioning. Items 3, 4, 5, 9, 10, 13, 16, and 17 are scored reversely. In Bangladeshi culture, the scale has been validated again. The adapted Bangla version of this scale (Uzzaman & Ahamed, 2020) has good face and content validity. The internal consistency for psychological well-being (α = .73) indicates good reliability of the scale in the context of Bangladesh.

Procedure

The study follows a standard data collection procedure, starting with permission from the school or college principal. Teachers are informed about the research's purpose and necessity in Bangladesh, and are briefed about questionnaires (PSI & PWS). Participants are assured their information will be kept confidential and used for research purposes. Instruments and techniques are administered, and participants are asked to keep their room quiet during filling up. Respondents were thanked for their assistance. Data collection takes one month, with an average completion time of 25-30 minutes. Data is stored securely and access is limited to the research team. Respondents were thanked for their assistance.

Results

To determine the effect of the nature of the job on political skill behavior and psychological well-being, descriptive statistics, one-way ANOVA and Post-hoc comparison were applied respectively on the obtained scores.

In Table 1, it has shown that the mean and standard deviation scores (M = 92.53; SD = 12.744) of political skill of teachers of government high school was higher than the teachers of non-government primary school (M = 78.27; SD = 5.378).

Table 1

Mean and Standard Deviation of Political Skill in terms of Teaching Hierarchy

Nature of Job	*N*	*Mean*	*Standard Deviation*
Government Primary School Teachers	15	82.60	6.311
Non-government Primary School Teachers	15	78.27	5.378
Government High School Teachers	15	92.53	12.744
Non-government High School Teachers	15	85.13	11.357
Government College Teachers	15	82.27	14.873
Non-government College Teachers	15	91.67	14.085

Table 2 revealed that there were significant differences in political skill among the teachers of different institutions ($F_{(5,\ 89)}$ = 3.665; p < .05) which indicated that political skill behavior differed according to the nature of educational institutions.

Table 2

Summary of One-Way ANOVA of Political Skill of Teachers from Different Institutions

	Sum of Square	*df*	Mean Square	*F*	*p*
Between Groups	2381.522	5	476.304		
Within Groups	10916.267	84	129.956	3.665	.005
Total	13297.789	89			

Note. *$p < .05$.

Table 3 indicated that among four treatment levels only three treatment levels showed significant difference between them (e.g., Non-government Primary School and Government High School; Non-government Primary School and Non-Government College) by Games-Howell method.

Table 3

Post-Hoc Comparison among the Mean of Nature of Job Considering Political Skill

(I) Job Nature	(J) Job Nature	MD(I-J)	*SE*	*p*	95% Confidence Interval	
					L. bound	U. bound
Non-government Primary School	Government High School	-14.267*	3.571	.009	-25.56	-2.97
	Non-government College	-13.400*	3.893	.029	-25.77	-1.03
Government High School	Non-government Primary School	14.267*	3.571	.009	2.97	25.56
Non-government College	Non-government Primary School	13.400*	3.893	.029	1.03	25.77

Note. *$p < .05$.

In Table 4, it has shown that the mean and standard deviation scores (M = 78.07; SD = 8.623) of psychological well-being of teachers of Government College was higher than the teachers of government primary school (M = 68.47; SD = 3.681).

Table 4

Mean and Standard Deviation of Psychological Well-Being in terms of Teaching Hierarchy

Nature of Job	*N*	*Mean*	*Standard Deviation*
Government Primary School Teachers	15	68.47	3.681
Non-govt Primary School Teachers	15	69.33	1.877
Government High School Teachers	15	76.87	8.741
Non-government High School Teachers	15	71.20	6.383
Government College Teachers	15	78.07	8.623
Non-government College Teachers	15	76.33	12.419

Table 5 revealed that there were significant differences in psychological well-being among the teachers of different institutions ($F_{(5, 89)} = 4.371$; $p < .05$) which indicated that psychological well-being varied according to the nature of educational institutions.

Table 6 indicated that among eight treatment levels, only four treatment levels showed significant difference between them (e.g., Government Primary School and Government High School; Government Primary School and Government College; Non-government Primary School and Government High School; Non-government Primary School and Government College) by Games-Howell method.

Table 5

Summary of One Way ANOVA of Teachers' Psychological Well-Being from Different Institutions

	Sum of square	*df*	Mean Square	*F*	*p*
Between Groups	1321.689	5	264.338	4.371	.001
Within Groups	5079.467	84	60.470		
Total	6401.156	89			

Note. *$p < .05$.

Table 6

Post-Hoc Comparison among the Mean of Nature of Job Considering Psychological Well-Being

(I) Job Nature	(J) Job Nature	MD(I-J)	*SE*	*p*	95% Confidence Interval	
					L. bound	U. bound
Government Primary School	Government High School	-8.400*	2.449	.029	-16.15	-.65
	Government College	-9.600*	2.421	.009	-17.25	-1.95
Non-government Primary School	Government High School	-7.533*	2.308	.048	-15.01	-.05
	Government College	-8.733*	2.279	.016	-16.12	-1.35
Government High School	Government Primary School	8.400*	2.449	.029	.65	16.15
	Non-government Primary School	7.533*	2.308	.048	.05	15.01
Government College	Government Primary School	9.600*	2.421	.009	1.95	17.25
	Non-government Primary School	8.733*	2.279	.016	1.35	16.12

Note. *$p < .05$.

Discussion

The purpose of this study was to determine if the nature of job has any effect on teacher's political skills and psychological well-being. The present study's findings provide support for its hypotheses. The initial hypothesis was that teachers' job nature will affect political skills. The present study (Table 2) found significant differences in political skill among teachers of different institutions ($F_{(5, 89)} = 3.665$; $p < .05$), supporting the first hypothesis that political skill behavior varies by educational institution. Again, Post-Hoc comparison (Table 3) indicates that among six treatment levels only four treatment levels show significant difference between them by the Games-Howell method. Government high school teachers have the highest level of political expertise of all teaching professions ($M = 92.53$). The reason behind this may be High school teachers often work with puberty-stage students, providing them with opportunities to develop social skills and political skills. These findings are also supported by the findings of Staw et al. (1994) found that positive work attitudes help form relationships, influence coworkers, and encourage teamwork. The study also reveals differences in administrative and financial structures between government and private schools in Bangladesh (Latif & Johanson, 2000). High school and college teaching is more encouraging than primary teaching, with teachers with more experience. Such a result could be attained as a result of the following factors like government educational institutes offer higher job security, salary, and opportunities, fostering positive attitudes among teachers, compared to primary high schools' less secure working environments and limited career development opportunities. Teachers in secondary institutions face greater challenges due to their responsibility to prepare students for future education. They must be skilled and cautious, and are more politically savvy due to better administration training. Government high schools offer more training and skill-building opportunities. Teachers' socio-cultural backgrounds, ranging from younger, less qualified primary school to more experienced high school and college teachers, impact their political skills and job nature.

The second hypothesis stated that there will be an effect of the nature of the job of teachers on psychological well-being. Results of the present study (Table 5) revealed that there are significant differences in psychological well-being among the teachers of different institutions ($F_{(5, 89)} = 4.371$; $p < .05$) indicating that psychological well-being varies according to the nature of educational institutions which supports the second hypothesis. Again, post-hoc comparison (Table 6) indicates that among six treatment levels only eight treatment levels show significant difference between them. The results also indicated that teachers from government colleges have a higher level of psychological well-being ($M = 78.07$) than any other nature of the teaching profession (Table 4). The reason behind these findings may be that Government college teachers enjoy higher salaries, job security, and opportunities for career development. These findings are also supported by the findings of a study reported that secondary school teachers experience more stress than primary school teachers due to various stressors, including workload, time constraints, student attitude, recognition, support, and lack of resources (Kavita & Hassan, 2018), Such a result may be found as a consequence of following reasons: Firstly, Government educational institutes have lower life stress for teachers due to job security, salary, and environment, while non-government institutes may have higher salaries but lower job security. Secondly, College

teachers have a stronger capacity for creating a dynamic equilibrium between their resources and difficulties, which could benefit their psychological health. College teachers have more social support and emotional intelligence, while high school teachers are adaptable, cautious, and aware of their psychological well-being. They are also more trained, despite limited opportunities in primary school.

Limitations and Challenges

The study has several limitations. Firstly, the sample was not fully representative of the broader demographic. Secondly, challenges were encountered in securing cooperation from professionals. Data collection was restricted in certain geographical areas. Respondents may have been influenced by social desirability bias, potentially impacting the accuracy of their responses. Lastly, unmeasured variables may have influenced the relationships between the studied variables.

Recommendations

The study aims to understand the political skill behavior and psychological well-being of teachers in Bangladesh, focusing on the impact of job nature on these factors. It recommends further research on a larger representative sample and incorporating more associated variables to address unresolved problems.

Conclusions

For everyone to receive a high-quality education, especially in Bangladesh, the role of teachers in education is essential. Teachers encounter a variety of difficulties, and their political savvy and engagement are essential for achieving goals. According to research, there are considerable variations in teachers' political ability and psychological well-being among institutions. Political skills and psychological well-being are higher among government high school and college professors. More consideration should be given to teachers' political savvy and psychological health to ensure high-quality education.

Funding: This research is funded by the Ministry of Science and Technology, Government of the People’s Republic of Bangladesh

References

Aslan, H., & Pektaş, V. (2017). Political skill levels of teachers working at primary, secondary and high schools. *Scientific Educational Studies*, *1*(1), 85–100.

Ferris, G. R., Treadway, D. C., Perrewé, P. L., Brouer, R. L., Douglas, C., & Lux, S. (2007). Political skill in organizations. *Journal of Management*, *33*(3), 290–320. https://doi.org/10.1177/0149206307300813

Ferris, G. R., Treadway, D. C., Kolodinsky, R. W., Hochwarter, W. A., Kacmar, C. J., Douglas, C., & Frink, D. D. (2005). Development and validation of the political skill inventory. *Journal of Management, 31*(1), 126–152. https://doi.org/10.1177/0149206304271386

Jahan, M., & Ahmed, M. M. (2018). Teacher’s job satisfaction: A study in secondary schools of Bangladesh. *Journal of Contemporary Teacher Education*, *11*(1), 130–135.

Kavita, K., & Hassan, N. C. (2018). Work stress among teachers: A comparison between primary and secondary school teachers. *International Journal of Academic Research in Progressive Education and Development*, *7*(4), 60–66.

Kyriacou, C. (2001). Teacher stress: Directions for future research. *Educational Review*, *53*(1), 27–35.

Latif, M. S., & Johanson, R. (2000). Bangladesh secondary and higher secondary education. *Bangladesh Education Sector Review*, *2*, 53–77.

Othman, Z., & Sivasubramaniam, V. (2019). Depression, anxiety, and stress among secondary school teachers in Klang, Malaysia. *International Medical Journal*, *26*(2), 71–74.

Perrewé, P. L., Ferris, G. R., Frink, D. D., & Anthony, W. P. (2000). Political skill: An antidote for workplace stressors. *Academy of Management Perspectives*, *14*(3), 115–123. https://doi.org/10.5465/ame.2000.4468071

Perrewé, P. L., Zellars, K. L., Ferris, G. R., Rossi, A. M., Kacmar, C. J., & Ralston, D. A. (2004). Neutralizing job stressors: Political skill as an antidote to the dysfunctional consequences of role conflict. *Academy of Management Journal*, *47*(1), 141–152. https://psycnet.apa.org/doi/10.2307/20159566

Pektaş, A., Pektaş, M. B., Koca, H. B., Tosun, M., Aslan, E., Koca, S., & Sadi, G. (2017). Effects of resveratrol on diabetes-induced vascular tissue damage and inflammation in male rats. *Turkish Journal of Biochemistry*, *42*(4), 451–458.

Ryff, C. D. (1989). Happiness is everything, or is it? Psychological well-being. *Journal of Personality and Social Psychology*, *57*(6), 1069–1080.

Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, *69*(4), 719–727. https://psycnet.apa.org/doi/10.1037/0022-3514.69.4.719

Staw, B. M., Sutton, R. I., & Pelled, L. H. (1994). Employee positive emotion and favorable outcomes at the workplace. *Organization Science*, *5*(1), 51–71.

Sultana, A., Sarker, M. N. I., & Prodhan, A. S. (2017). Job satisfaction of public and private primary school teachers of Bogra District in Bangladesh. *Journal of Sociology and Anthropology*, *1*(1), 41–46.

Uğurlu, E., & Bostancı, A. B. (2017). The relationship between teachers' political skills and organizational opposition levels. *Journal of Human Sciences*, *14*(4), 4050–4064.

Jagannath University Journal of Psychology, Vol. 12, 21-27, 2023 ISSN 2225-4439

Research Article

Role of Punctuation Skills and Reading Comprehension in Academic Achievement

Jannatul Ferdous Proma[1], Swarup Bala[1], and Samsad Afrin Himi[1]

Received date: January, 2024
Revised date: April, 2024
Accepted date: June, 2024

Abstract

Punctuation is crucial for creating rhythm and flow in written texts, guiding readers, and enhancing reading comprehension. Reading comprehension, in turn, impacts the academic achievement of the student. The present study was carried out to explore the role of punctuation skills and reading comprehension in academic achievement. A sample of 80 undergraduate students participated in this study. Participants were selected by purposive sampling method. Punctuation skills, reading comprehension, and academic achievement were assessed using performance-based tests. Results revealed a significant positive correlation between reading comprehension and academic achievement ($r = .277$, $p < .05$). However, punctuation skills did not show any association with reading comprehension and academic achievement. Regression analysis further indicated that neither punctuation nor reading comprehension significantly predicted academic achievement. Findings suggest that while reading comprehension plays a pivotal role in academic success, the role of punctuation skills may be more complex and nuanced. This study concludes with recommendations for future research to explore the interplay between punctuation skills and academic achievement.

Keywords: punctuation, reading comprehension, academic achievement

Introduction

Punctuation is the use of standard signs and space to written text, whether read aloud or silently, provides a visual cue that facilitates comprehension and accurate reading. Various punctuation marks are used in various contexts, all of which contribute to the clarity of the message. Lukeman (2011) compared punctuation to the music of a written text, emphasizing its role in creating rhythm and flow. Punctuations act as signals - guiding readers through the text, and significantly enhancing reading comprehension by providing essential cues for better interpretation. Students who understand and interpret written information are likely to do better in academically. Because reading comprehension is fundamental across all academic disciplines, it is the foundation for learning from textbooks, understanding instructions, and critically engaging

[1]Department of Psychology, Jagannath University, Dhaka

Corresponding concerning this article should be addressed to Samsad Afrin Himi, Department of Psychology, Jagannath University, Dhaka. Email: samsad@psy.jnu.ac.bd

with course materials. In essence, strong punctuation skills contribute to improved reading comprehension, which, in turn, enhances overall academic performance.

Ganeri (2013) describes punctuation as a collection of symbols and indicators in written communication. Its function is to enhance reader comprehension. Similarly, according to Lauchman (2010), punctuation serves as a vital element in written expression, enabling precise message communication while also addressing various aspects of speech such as pauses, breaks, and intonation within text. Reading comprehension is a complex interplay of automatic and strategic cognitive processes, allowing the reader to construct a mental representation of the content (van den Brock & Espin, 2012). Punctuation skills impact one's reading prosody, which is a sub-component of reading fluency that is linked to reading comprehension (Kim et al., 2021; Wade-Woolley et al., 2022; Wolters et al., 2022). Research indicates that punctuation plays a crucial role in helping students appropriately pause for breath during oral reading (Godde et al., 2022). Conversely, Arcand et al. (2014) found a negative correlation ($r = -.61$) between inappropriate pausing and reading comprehension.

Awareness of violations of punctuation and capitalization rules among students can enhance reading comprehension by promoting an understanding of sentence structure, a crucial predictor of reading comprehension (Lervåg et al., 2018; MacKey et al., 2021). The association between punctuation and reading comprehension is also supported by empirical neuroscientific findings. For instance, one study observed that readers' eye movements were influenced by syntactic boundaries indicated by punctuation marks (Andrews & Veldre, 2021), while another study identified prolonged fixations at clause and sentence boundaries marked by commas and periods (Hirotani et al., 2006). Recognizing the significance of individuals' reading skills is crucial for academic achievement (Keskin, 2013; Yildiz, 2013). Education curricula often emphasize the importance of strong reading skills, stating that these skills form the foundation of any course. A student, who is unable to read efficiently, will struggle to achieve success.

The ability to comprehend and interpret a written text is widely considered a fundamental requirement for success in various aspects of life (van den Broek & Espin, 2012). Students who do not possess adequate reading skills may encounter challenges in their academic life, potentially leading to failure to clear examinations on time and fewer chances of economic success in the future (Willinsky, 2017). Yildiz (2013) showed a relationship between reading motivation, fluency, reading comprehension, and academic success. In different studies concerning the impact of reading comprehension on academic success, reading comprehension is recognized as a crucial factor for academic achievement (Bharuthram, 2012) and considered an essential prerequisite for various academic skills (Guldenoglu, 2008). Onkoba's (2014) findings affirmed that the practice of reading comprehension significantly impacts academic performance, establishing a notable correlation between reading comprehension practices and overall academic success.

Understanding the role of punctuation skills in reading comprehension is particularly relevant in the context of academic achievement. Punctuation plays an important role in reading comprehension, and reading comprehension affects the academic performance of students. Therefore, we may assume that reading comprehension acts as a buffer between punctuation skills and academic achievement. Despite numerous studies exploring the factors influencing reading

comprehension and academic success, there exists a notable research gap concerning the specific role of punctuation skills and reading comprehension on academic achievement among university students in Bangladesh. By addressing this research gap, the present study seeks to shed light on whether punctuation skills serve as a predictor of reading comprehension and consequently, whether they contribute significantly to overall academic achievement. This research can inform policymakers, educators, and curriculum developers about potential areas for intervention and support, ultimately enhancing the educational outcomes of university students in Bangladesh.

Method

Participants

A total of 80 university students (37 females and 43 males) participated in this study. The age of the participants ranged from 22 to 26 years (*mean* = 23.22, *SD* = 1.09 years). Most of their families belonged to the middle (78%) and higher (22%) levels of socioeconomic status.

Measures

Punctuation Test

Participants were presented with an English passage, in which they were asked to use correct punctuation in the missing parts after reading it carefully. There were 15 items. Items were scored as 1 for correct response or 0 for wrong response. The reliability estimate of the punctuation test was .75.

Reading Comprehension Test

A 30-line passage with 10 questions was taken. These questions were structured in two different parts. In the first part, there were 5 fill in the gaps. Example item was "_ *were responsible for breaking the jar*". In the other part, there were 5 true and false questions. Example item was "*The animal was waiting for another animal*. Items were scored as 1 for correct response or 0 for wrong response. The reliability estimate of the punctuation test was .70.

Academic Achievement

The last two semesters' grade point average (GPA) scores of the participants were taken. The average of the two semesters' results was used to analyze the data.

Procedure

Initial permission was taken from the participants. They were briefed on the purpose and importance of the research. In the beginning, they were simply instructed on how to fill out the questionnaire, including the punctuation skill test and reading comprehension test. After that, an audio conversation was played over headphones to assess listening ability. Participants were given a five-minute break after each task. They took 35 minutes to complete all the tasks. Participants were assured that their information was only used for research purposes and were kept confidential. Finally, they were thanked for their participation.

Data Processing and Analysis

Descriptive and inferential statistics (Pearson product-moment correlation analysis, and multiple regression analysis) were employed using SPSS version 25 in the present study.

Results

Results are shown in the following tables consecutively. Table 1 showed the descriptive statistics of academic achievement, punctuation skill, and reading comprehension ability.

Table 1

Descriptive Statistics of the Study Variables

Variable	*Mean*	*SD*
Academic Achievement	3.44	.26
Punctuation	.61	.10
Reading Comprehension	.65	.11

Note. SD=Standard Deviation.

Table 2 showed that reading comprehension had significant positive correlation with academic achievement (r = .227, p < .05). Unlikely, punctuation had no correlation with reading comprehension and academic achievement of the student. The regression analysis (Table 3) showed that neither punctuation nor reading comprehension was proved as a significant predictor of academic achievement.

Table 2

Correlation Matrix between Academic Achievement, Reading Comprehension, and Punctuation

Variable	Punctuation Skill	Reading Comprehension	Academic Achievement
Punctuation Skill	1		
Reading Comprehension	.186	1	
Academic Achievement	.061	.227*	1

Table 3

Regression Analysis for Predicting Academic Achievement

Model	Unstandardized Coefficient		Standardized Coefficient	*t*	*p*
	B	Std. Error	β		
Constant	3.067	0.223		13.783	<.001
Punctuation	0.62	0.284	.25	.218	.828
Reading Comprehension	.505	.258	.222	1.953	.054

Note. Adjusted R^2 = .027, ($F_{(2, 76)}$ =2.082), p > .05.

Discussion

The present study aimed to see the relationship between punctuation and reading comprehension and how this relationship contributed to academic achievement. Results showed a significant positive correlation between reading comprehension and academic achievement (r =.227, $p < .05$), but unexpectedly punctuation skills did not correlate with reading comprehension or academic achievement. This finding aligns with existing literature emphasizing the importance of reading comprehension for academic success (Yildiz, 2013; Onkoba, 2014). The positive correlation between reading comprehension and academic achievement can be attributed to the pivotal role of reading in the acquisition of knowledge across various domains. Proficient reading skills enhance students' ability to understand and interpret complex information, enabling them to grasp concepts, follow instructions, and engage with academic materials effectively.

This result is somewhat unexpected given the theoretical framework emphasizing the role of punctuation in aiding reading comprehension (Lukeman, 2011). The lack of a significant correlation between punctuation skills and reading comprehension or academic achievement may be attributed to several factors. Punctuation is undoubtedly important for conveying meaning and clarifying the structure of written language but it represents just one component of a broader set of language skills. Reading comprehension and academic achievement are multifaceted, requiring a combination of vocabulary, syntax, context understanding, and critical thinking. If punctuation is taught in isolation without integration into broader language skills, its impact on overall reading comprehension and academic achievement may be limited. In summary, the complex nature of language and the multifaceted aspects of reading and academic success contribute to the absence of a significant correlation between punctuation skills and these outcomes.

The regression analysis, as shown in Table 3, further explored whether punctuation skills and reading comprehension could predict academic achievement. Surprisingly, neither punctuation nor reading comprehension emerged as significant predictors of academic achievement. Lack of skill in higher secondary school period about punctuation and reading comprehension may have a great contribution to explaining this output. Some personal characteristics, such as lack of motivation, lack of attention and various personal distresses may be the cause behind this finding.

This study has some limitations. The major limitation of the study was the accessibility of the target population. The sample was not too large. Some of the participants did not cooperate properly because of the large time duration of this test. As a result, it influenced the study output.

In conclusion, while the study provides valuable insights into the relationship between punctuation skills, reading comprehension, and academic achievement, the lack of significant correlations challenges existing assumptions. Future research should explore punctuation skills, considering both basic and advanced aspects, to better understand their role in literacy and academic success. Moreover, exploring alternative methods of assessing punctuation skills could contribute to a more comprehensive understanding of the interplay between punctuation, reading comprehension, and academic achievement.

References

Andrews, S., & Veldre, A. (2021). Wrapping up sentence comprehension: The role of task demands and individual differences. *Scientific Studies of Reading, 25*(2), 123–140. https://doi.org/10.1080/10888438.2020.1817028

Arcand, M. S., Dion, E., Lemire-Th´eberge, L., Guay, M. H., Barrette, A., Gagnon, V., Caron, P. O., & Fuchs, D. (2014). Segmenting texts into meaningful word groups: Beginning readers' prosody and comprehension. *Scientific Studies of Reading, 18*(3), 208–223. https://doi.org/ 10.1080/10888438.2013.864658

Bharuthram, S. (2012). Making a case for the teaching of reading across the curriculum in higher education. *South African Journal of Education*, *32*(2), 205–214.

Ganeri, A. (2013). *Punctuation: Full stops, commas and question marks*. London: Raintree Library.

Godde, E., Bailly, G., & Bosse, M. L. (2022). Pausing and breathing while reading aloud: Development from 2nd to 7th grade in French-speaking children. *Reading and Writing: An Interdisciplinary Journal, 35*, 1–27. https://doi.org/10.1007/s11145-021- 10168-z

Güldenoğlu, B. (2008). Zihinsel yetersizliği olan öğrencilerde okuduğunu anlama becerilerinin desteklenmesi. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Özel Eğitim Dergisi*, *9*(02), 51-63.

Hirotani, M., Frazier, L., & Rayner, K. (2006). Punctuation and intonation effects on clause and sentence wrap-up: Evidence from eye movements. *Journal of Memory and Language, 54*, 425–443. https://doi.org/10.1016/j.jml.2005.12.001

Keskin, H. K. (2013). Impacts of reading metacognitive strategies and reading attitudes on school success. *International Journal of Academic Research*, *5*(5), 312–317.

Kim, Y. S. G., Quinn, J. M., & Petscher, Y. (2021). Reading prosody unpacked: A longitudinal investigation of its dimensionality and relation with reading and listening comprehension for children in primary grades. *Journal of Educational Psychology, 113*(3), 423–445. https://doi.org/10.1037/edu0000480

Lauchman, R. (2010). *Punctuation at work: Simple principles for achieving clarity and good style.* Library of Congress.

Lervåg, A., Hulme, C., & Melby-Lervåg, M. (2018). Unpicking the developmental relationship between oral language skills and reading comprehension: It's simple, but complex. *Child Development, 89*(5), 1821–1838. https://doi.org/10.1111/ cdev.12861

Lukeman, N. (2011). *The art of punctuation*. Oxford: Oxford University Press

MacKey, E., Lynch, E., Duncan, T. S., & Deacon, S. H. (2021). Informing the science of reading: Students' awareness of sentence-level information is important for reading comprehension. *Reading Research Quarterly, 56*(S1), S221–S230. https://doi.org/ 10.1002/rrq.397

Onkoba, M. K. (2014). *Correlation between reading comprehension practices and academic performance: A case study of class three pupils in Westlands Sub-County, Kenya* (Doctoral dissertation, University of Nairobi).

Van den Broek, P., & Espin, C. (2012). Connecting cognitive theory and assessment: Measuring individual differences in reading comprehension. *School Psychology Review, 41*(3), 315–325.

Wade-Woolley, L., Wood, C., Chan, J., & Weideman, S. (2022). Prosodic competence as the missing component of reading process across languages: Theory, evidence and future research. *Scientific Studies of Reading, 26*(2), 165–181. https://doi.org/10.1080/10888438.2021.1995390

Willinsky, J. (2017). *The new literacy: Redefining reading and writing in the schools*. New York: Routledge.

Wolters, A. P., Kim, Y. S. G., & Szura, J. W. (2022). Is reading prosody related to reading comprehension? A meta-analysis. *Scientific Studies of Reading, 26*(1), 1–20. https://doi.org/10.1080/10888438.2020.1850733

Yildiz, M. (2013). Okuma motivasyonu, akıcıokumaveokuduğ (English: The role of the reading motivation, reading fluency and reading comprehension on Turkish 5th graders' academic achievement). *Journal of Turkish Studies*, *8*(4), 1461–1478.

Jagannath University Journal of Psychology, Vol. 12, 28-40, 2023 ISSN 2225-4439

Research Article

Impact of Personality Types on Postnatal Depression

Reya Raihan[1] and Md. Nore Nobi Nirobe[2]

Received date: February, 2024
Revised date: May, 2024
Accepted date: July, 2024

Abstract

The present study was designed to investigate impact of personality types on postnatal depression. The participants of present study were 50 women who have at least one child, living in Dhaka city selected by purposive sampling technique. The Bangla version of Big five personality test and postnatal depression scales were used in this study. The present study was conducted by following cross-sectional survey research design. Data were analyzed by applying Pearson product moment and step wise multiple regression method. The result extracted that there were significant positive relationships among extraversion, agreeableness, conscientiousness, neuroticism, openness on postnatal depression. Conscientiousness was highly correlated with postnatal depression (r = .720). Conscientiousness alone explained 51.8% of variance. The partial standardized betas (βs) indicated that neuroticism (β = .279) was another predictor of postnatal depression.

Keywords: Big five personality traits, postnatal depression, women

Introduction

Personality, a characteristic way of thinking, feeling, and behaving. Personality embraces moods, attitudes, and opinions and is most clearly expressed in interactions with other people. According to Feldman (2012) "personality is the pattern of enduring characteristics that produce consistence and individuality in a given person." According to the Big Five theory of personality (Costa & McCrae, 1992), there are five independent personality traits: neuroticism, extraversion, openness, agreeableness and conscientiousness.

Postpartum depression (PPD), also called postnatal depression, is a type of mood disorder associated with childbirth, which can affect both sexes. Symptoms may include extreme sadness, low energy, anxiety, crying episodes, irritability, and changes in sleeping or eating patterns. Symptoms of PPD can occur any time in the first year postpartum. Typically, a diagnosis of postpartum depression is considered after signs and symptoms persist for at least two weeks. These symptoms include- emotional, behavioral and cognitive changes. Postpartum depression onset usually begins between two weeks to a month after delivery. A study done at an inner-city

[1]Department of Psychology, Bangabandhu Sheikh Mujibur Rahman Science and Technology University, Pirojpur
[2]Department of Psychology, Jagannath University, Dhaka

Corresponding concerning this article should be addressed to Reya Raihan, Department of Psychology, Bangabandhu Sheikh Mujibur Rahman Science and Technology University, Pirojpur. Email: reyaraihan@gmail.com

mental health clinic has shown that 50% of postpartum depressive episodes there began prior to delivery. PPD may last several months or even a year (Yonkers KA et al., 2001). Postpartum depression can also occur in women who have suffered a miscarriage (Miller LJ, 2002).

The causes of PPD are hormonal changes, genetics, and major life events. Hormones that have been studied include estrogen, progesterone, thyroid hormone, testosterone, corticotropin releasing hormone, endorphins and cortisol (Soares CN & Zitek B, 2008) are releasing in pregnancy time, personality type has a great impact during this period.

According to many personality psychologists, personality types are captured by five higher-order dimensions—neuroticism, agreeableness, extraversion, openness to experience, and conscientiousness—collectively known as the Big Five (Digman & Takemoto-Chock, 1981; Norman, 1963). Individuals who score high on neuroticism are inclined to dispositionally anxious, tense, unstable, sensitive, prone to worry, hostile, impulsive, and tend to experience negative affect. Highly agreeable individuals are trusting, sympathetic, warm, praising, gentle, altruistic, unselfish, forgiving, affectionate, and cooperative. Highly extraverted individuals are sociable, outspoken, energetic, active, adventurous, outgoing, lively, and experience positive emotions. Highly open individuals are imaginative and sensitive to art and beauty, intellectually curious and intelligent, resourceful, and behaviorally flexible. And those who score high on conscientiousness are trustworthy, well-organized, cautious, responsible, efficient, and diligent (Costa & McCrae, 1985, 1992; John & Srivastava, 1999)

Among the Big 5, neuroticism is the strongest predictor of clinical depression (e.g., Kotov et al., 2010) and depressive symptoms (Chioqueta & Stiles, 2005). Two mechanisms account for this strong association. First, highly neurotic individuals tend to report and/or experience more stress in their daily lives (e.g., Bolger & Zuckerman, 1995; Gunthert et al., 1999; Hammen, 2006; Hutchinson & Williams, 2007; Kendler et al., 2010; Ormel & Wohlfarth, 1991; Van Os & Jones, 1999). Gunthert and colleagues (1999), for example, examined different types of stressors and found that highly neurotic individuals report experiencing more interpersonal stressors on a daily basis (rather than stressors associated with academic, work, fatigue, illness, etc.) than less neurotic individuals do. One possible reason for this is highly neurotic individuals' tendency to have negative interactions with other people, especially their romantic partners. Other research has found that extraversion, conscientiousness, agreeableness individuals are relatively more likely to engage in negative communication patterns (e.g. Caughlin et al., 2000; Donnellan et al., 2007; Donnellan et al., 2004; Donnellan et al., 2005), poorer emotional regulation aggressive externalization (Vater & Schröder-Abé, 2015), display dysfunctional conflict styles (Hanzal & Segrin, 2009), and occasionally become violent or aggressive (e.g. Hellmuth & McNulty, 2008) with their romantic partners.

Second, when confronted with a stressor, highly neurotic individuals often react more intensely than less neurotic individuals, reporting higher levels of distress (e.g, Gunthert et al., 1999), poorer mental health (e.g., Van Os & Jones, 1999), greater anger (e.g. Bolger & Zuckerman, 1995), and more depressive symptoms (e.g., Bolger & Zuckerman, 1995; Hutchinson & Williams, 2007). Neuroticism, therefore, is particularly important for predicting and understanding individuals' psychological reactions to stressful events. As a result, highly neurotic

individuals should be more vulnerable to experiencing adverse depressive symptoms during chronically stressful life transitions.

Surprisingly little research has investigated neuroticism and its ties to depressive symptoms in the context of the transition to parenthood, which is one of the most common and difficult life transitions experienced by most adults women (Cowan & Cowan, 2000). A large body of research has focused on postpartum depression, which is a clinically defined specific depressive episode following childbirth (see the Diagnostic and Statistical Manual of Mental Disorders; American Psychiatric Association, 2000; 2013). Variegated findings indicated that extraversion, agreeableness, conscientiousness, neuroticism, openness predicts more postpartum depressive problems during the first few months after childbirth (e.g. Areias et al., 1996; Dudley et al., 2001; O'Hare & Swain, 1996; Robertson et al., 2004; Verkerk et al., 2005). This research (Rates and risk of postpartum depression), however, is limited because the definition of postpartum depression usually excludes depressive symptoms, which are experienced by a much higher percentage of new parents and lie on the low-to-middle part of the unipolar depression continuum (O'Hare & Swain, 1996). Matthey et al., (2000) has examined the association between neuroticism and depressive symptoms across the transition to parenthood using rigorous methods (i.e., assessing both partners and their depressive symptoms longitudinally, both before and after childbirth). Matthey and colleagues (2000) found that higher neuroticism predicted more depressive symptoms measured at four time-points.

Postnatal depression is defined as a particular disorder of mood that may occur during the first year after giving birth, with a maximum incidence between 4 and 6 weeks after giving birth in any social, economic or cultural context (Stotland & Stotland, 1999; Munk-Olsen et al., 2006). Postnatal depression has harmful consequences on the well-being of mothers, and infants and relationships between mothers with the newborn and their partner (Grace et al., 2003; Dennis et al., 2004; Puckering, 2005). Considering the negative consequences with this disorder, more studies are needed to explore the role of psychological factors, which were less investigated in the previous literature (Verkerk et al., 2005) on the etiology of postnatal depression. Neuroticism, characterized by emotional instability and negative affect, has been strongly associated with PPD. A meta-analysis found that women with higher neuroticism scores are more vulnerable to experiencing postpartum depressive symptoms (Puyané et al., 2022).

In summary, significance of the study is understanding how personality types intersect with postpartum depression can inform better prevention strategies and early interventions. Screening for these personality types may help identify women who need support during this critical period

Aims of the Current Study

The present study was an attempted to analyze and explain the impact of personality types on postnatal depression with the following objectives-

- To investigate whether there is any impact of extraversion on postnatal depression.
- To investigate whether there is any impact of agreeableness on postnatal depression.
- To investigate whether there is any impact of conscientiousness on postnatal depression.
- To investigate whether there is any impact of neuroticism on postnatal depression.
- To investigate whether there is any impact of openness on postnatal depression.

Hypotheses

On the basis of findings of previous studies, theoretical perspective and above discussion the following hypothesis were formulated to test in this empirical study:

- H_1: Significant impact will be found of extraversion on postnatal depression.
- H_2: Significant impact will be found of agreeableness on postnatal depression.
- H_3: Significant impact will be found of conscientiousness on postnatal depression.
- H_4: Significant impact will be found of neuroticism on postnatal depression.
- H_5: Significant impact will be found of openness on postnatal depression.
- H_6: Significant impact will be found of extraversion, agreeableness, conscientiousness, neuroticism, openness on postnatal depression.

Method

Participants

The participants of present study were 50 women who have at least one child, age 20-40 years, evaluation time- 1 month, delivery types- Caesarean Section, living in Dhaka city.

Measures

Big Five Personality Test

This test was originally developed by (McCare & Costa, 1999). In the present study the Bengali version of Big Five Personality test (Muhammad et al, 2011) was used to measure the respondent big five personality factors. It contains 44 items. It has five dimensions such as Openness (O) to experience, Consciousness (C), Extraversion (E), Agreeableness (A) and Neuroticism (N). There are five alternative options to give answer in each statement. The lowest possible score in each dimension is 9, highest possible score is 50 and neutral point is 27. In the case of four dimension (O, E, A, C) high score indicate positive symptoms of the personality characteristic and in the case of neuroticism, people who score high in neuroticism tend to be anxious, hostile and self-conscious. English and Bangla version of big five personality test was administered on participant a gap of 7 days. Significant (p<.01) correlation between English and Bangla version [r (openness) = .93; r (Conscientiousness) = .83; r (extraversion) =.87; r (agreeableness)= .91; r (neuroticism)= .86] indicates translation reliability of the test. Test re-test reliability co-efficient [r (openness) = .87; r (Consciousness)= .82; r (extraversion)= .90; r (agreeableness)= .86; r (neuroticism)= .92] were also significant (p<.01). Finally, to access the construct validity of the test correlation co-efficient of score of each item and the total score of the scale were determined. The correlation co-efficient [r (openness) = .94; r (Conscientiousness) = .86; r (extraversion) =.84; r (agreeableness)= .79; r (neuroticism)= .92}] which indicated construct validity of the scale.

Edinburgh Postnatal Depression Scale

To measure participants' postnatal depression, an adapted Bangla version of (Algin et al., 2007) Edinburgh postnatal depression scale (EPDS) originally developed by Scottish health centers in Edinburgh and Livingston (1987) was used. EPDS is composed of 10 items. Each items

have four alternative responses which asked the respondents to tick the responses that comes closest to how the respondents have been feeling in the previous 7 days. The scoring of item number 1,2 & 4 is 0,1,2 & 3 and items 3 and 5-10 are reverse coding such as 3,2,1 & 0. Overall assessment is done by total score, which is determined by adding together (reverse scoring some questions) the scores for each of the 10 items. Higher scores indicate more depressive symptoms. The concurrence of each respondent between two versions showed a correlation coefficient of 0.98 (p<.01). The Bland-Altman test also showed a high degree of agreement between English & Bangla version of postnatal depression scale.

Procedure

For collecting proper information from participants, at first, permission was taken from concerned authority for data collection and rapport was established with participants. Participants were informed about the purpose and necessity of the present research in the context of Bangladesh. At first, participants were briefed about the questionnaires and told them how to fill up the question. Then they were provided four questionnaires with personal inventory form. Participants were requested to hear question at first verbally. Before answering this question, they were requested to fill their personal information form (PIF). Data were collected through face to face interview.

At first participant responded to big five personality test scale and finally postnatal depression scale. After complication of participant's responses, the questionnaires were collected and then they were given thanks for their sincere co-operation. A code number was assigned to each questionnaire before the data were examined. The data were stored in a secure area and access to the data was limited to the research team. In this research ethical considerations are confidentiality, informed consent, anonymity, avoid plagiarism.

Results

The results derived from the analyses were presented in the following Tables. As shown in the Table 1, the mean scores of extraversions, agreeableness, conscientiousness, neuroticism, openness and postnatal depression were 29.00, 33.28, 33.63, 29.74, 35.56, 27.96 respectively.

Table 1

Mean and Standard Deviation of the Score of the Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness and Postnatal Depression.

Variables	Mean	Std. Deviation
Extraversion	29.00	2.53
Agreeableness	33.28	2.56
Conscientiousness	33.64	2.71
Neuroticism	29.74	3.11
Openness	35.56	2.68
Postnatal Depression	27.96	2.98

The result (Table 2) indicated that extraversion had the correlation [r =.329, p<.05] agreeableness had the second largest correlation [r =.486, p<.01], conscientiousness had the largest correlation [r =.720, p<.01], neuroticism had the third largest correlation [r =.460, p<.05], openness had the correlation [r =.302, p<.05] in case of postnatal depression.

Table 2

Correlation Matrix among Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness and Postnatal Depression.

Variables	1	2	3	4	5	6
Extraversion	-					
Agreeableness	.340*	-				
Conscientiousness	.265	.620**	-			
Neuroticism	.275	.130	.277	-		
Openness	.316*	.348*	.278	-0.021	-	
Postnatal Depression	.349*	.486**	.720**	.460*	.302*	-

Note. **p<.01 level (2-tailed); *p<.05 level (2-tailed).

Result of regression analysis extrapolated that conscientiousness was the strongest predictor of postnatal depression explained 51.8% of variance in postnatal depression supported by Costa and McCrae (1985); So, the characteristics of conscientiousness was a tendency to display self-discipline, act dutifully, and strive for achievement against measures or outside expectations. Changes in current life living difficult for accepting them so that they were easily connected to depression. The R^2 change also indicated that 7.3% of variance in postnatal depression supported by Kotov et al., (2010). The characteristic of neuroticism was the tendency to experience negative emotions, such as anger, anxiety, or depression was accounted for conscientiousness and neuroticism.

Table 3

Selected Statistics of Step Wise Regression of Postnatal Depression on Extraversion, Agreeableness, Conscientiousness, Neuroticism and Openness to experience

Predictors or Variable	R	R^2	R^2 Change	Sig. F Change
Conscientiousness	0.72	0.518	0.518	<·001
Conscientiousness & Neuroticism	0.77	0.592	0.073	0.01

Predictors: extraversion, agreeableness, conscientiousness, neuroticism, openness

The significant F test [F (5, 44) = 14.089, p<.001] of Table 4 indicted that the variation in postnatal depression was accounted by joint linear influences of openness, neuroticism, agreeableness, extraversion, conscientiousness.

Table 4

The overall F test of Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness and Postnatal Depression

Model	Sum of Squares	*df*	Mean Square	*F*	*p*
Regression	267.092	5	53.418		
Residual	166.828	44	3.792	14.089	<.001
Total	433.92	49			

Predictors: (Constant), Openness, Neuroticism, Agreeableness, Extraversion, Conscientiousness. Dependent Variable: Postnatal Depression.

Unstandardized coefficient was useful in interpretation and standardized coefficient was useful in comparison of impact of any independent variable on dependent variable. The partial unstandardized Beta *(B)* indicated that independent variable extraversion increased by one standard deviation, postnatal depression increased by 0.088 standard deviation, respectively agreeableness, conscientiousness, neuroticism and openness to experience increased by one standard deviation, postnatal depression increased by (0.034, 0.629, 0.267, 0.128) standard deviation. The partial standardized betas (β s) indicated that all variable in this model were predictors of postnatal depression. These variables were extraversion (β = .075, p<.48), agreeableness (β = .029, p<.818), conscientiousness (β = .573, p< .001), neuroticism (β = .279, p< .009), openness (β = .115, p<.274). Conscientiousness was the strongest predictor.

Table 5

Stepwise Multiple Regression of Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness on Postnatal Depression

	Unstandardized Coefficients		Standardized Coefficients		
Independent Variable	*B*	Std. Error	Beta (β)	*t*	*p*
(Constant)	-9.361	5.20		-1.80	0.079
Extraversion	0.088	0.125	0.075	0.707	0.483
Agreeableness	0.034	0.145	0.029	0.231	0.818
Conscientiousness	0.629	0.136	0.573	4.622	<.001
Neuroticism	0.267	0.097	0.279	2.751	0.009
Openness	0.128	0.115	0.115	1.107	0.274

Discussion

The present study was designed to investigate the impact of personality types on postnatal depression. The obtained data were analyzed by applying Pearson product moment statistical technique to determine the correlation coefficient among the dependent and independent variables which were presented in Table 2. To consider the effect of each independent variable on respondent postnatal depression a step wise regression analysis was also carried out. Result of regression analysis presented in Table 3 through 5.

Six hypotheses were formulated to test in present study. In Table 1 showed that all personality types positively correlated with postnatal depression. Among personality traits, neuroticism was consistently associated with emotional disturbances during the postnatal period. Specifically, cross-sectional studies have discovered that new mothers reporting high levels of neuroticism are more likely to experience higher levels of major postnatal depression or depressive symptomatology (Jones et al., 2010; Marín-Morales et al., 2014; Udovičić, 2014; Maliszewska et al., 2016). Regarding extraversion, several cross-sectional and longitudinal studies found that women who reported high levels of extraversion also reported low levels of postnatal depression (Song et al., 2010; Maliszewska et al., 2016; Peñacoba-Puente et al., 2016), A limited number of studies explored the relation between the other Big Five personality traits and postnatal depression and reported mixed findings. One study indicated that high levels of openness, agreeableness, or conscientiousness were associated with a lower risk of postnatal depression (Imširagić et al., 2014), whereas other studies found that only high levels of agreeableness (Song et al., 2010) or openness and conscientiousness (Udovičić, 2014) were linked with a lower risk of postnatal depression. Previous literature suggests that one's personality traits might reflect individual differences when it comes to reactivity to emotional and environmental cues (Corr, 2008, 2016; Hughes et al., 2012). Finally from the above findings in our current research, it is surprising that the postnatal depression is positively correlated with all forms of personality traits due to hormonal & environmental changes because personality is the pattern of enduring characteristics that may differ in different situations.

The third hypothesis stated that significant impact will be found conscientiousness on postnatal depression. Result presented in Table 2 indicated that there was a significant positive relationship of postnatal depression and conscientiousness. Standardized beta (Table 5) also indicated that conscientiousness increased by one standard deviation, postnatal depression increased by 0.573 standard deviation at $p<.001$, level. The R^2 change indicated that 51.8% variance of postnatal depression supported by Costa & McCrae, 1985; So, the characteristics of conscientiousness was a tendency to display self-discipline, act dutifully, and strive for achievement against measures or outside expectations. Changes in current life living difficult for accepting them so that they were easily connected to depression. So this result confirmed our third hypotheses.

The fourth hypothesis stated that significant impact will be found neuroticism on postnatal depression. Result presented in Table 2 indicated that there was a significant positive relationship of postnatal depression and neuroticism. Standardized beta (Table 5) also indicated that neuroticism increased by one standard deviation, postnatal depression increased by 0.279 standard deviation $p<.009$, level. The R^2 change indicated that 7.3% variance of postnatal depression supported by Kotov et al. (2010), the characteristic of neuroticism was the tendency to

experienced negative emotions, such as anger, anxiety or depression. It is sometimes called emotional instability. So, the result confirmed our fourth hypotheses.

Our objectives were buttressed by the findings of this study, although conscientiousness was the largest predictor and neuroticism was the second largest predictor. To identify personality traits that increase vulnerability to PPD, researchers must decide which personality trait or traits to examine and which instrument to use to assess vulnerability (Boyce et al., 2001). Despite this, there is conceptual overlap between clinical depression and personality traits as measured by the studies. Certain personality traits increase vulnerability to depression (Akiskal, 1983; Hirschfeld, 1999). Additionally, temperament and personality are not a fixed, static set of characteristics, but rather are dynamic constructs that develop over the lifespan and change in response to maturation and life circumstances. For example, life stressors and major shifts in social roles and relationships can contribute to personality change (Fraley and Roberts 2005, Kandler et al. 2010). The differences in the timepoints when personality traits and PPD were assessed also make it difficult to compare the results of the different studies.

Although the first, second, firth and six hypotheses shown positive correlation with postnatal depression but these hypotheses unable to showed standardize beta at a significant level. These variables were extraversion (β=.075, p<.48), agreeableness (β=.029, p<.818), conscientiousness (β = .573, p<.001), neuroticism (β = .279, p<.009), openness (β = .115, p<.274). The current life changes in postnatal period extraversion, agreeableness and openness person can accept these changes. So that the first, second, firth & six hypotheses were not confirmed.

Limitation of the Study

The present study had several limitations, these were: 1) the small sample size 2) the difficulty to fill up full concentration at the time for being administered questionnaires too large 3) sample of the present study was selected only from Dhaka city. Moreover, results calculated by applying correlation and regression analysis did not demonstrate the casual relation. They just showed relationship between two or more variables. Nevertheless, the findings of the present study were very interesting and many contribute to develop insight to all the mothers, researchers, psychologists etc. for becoming aware of postnatal depression.

Recommendation

If the above limitations turn in to positive side, then it will be easy for future researchers for conducting this type of research. Again the study recommends further research on larger sample from different areas of Bangladesh, that is, proper representative sample and with better methodological sophisticated and analysis. Further researchers should incorporate more associated variables with insecurity.

Conclusion

In the light of above findings, it is therefore, concluded that this study will help to understand the importance of carrying during or after the childbirth. Although personality types have great influence on postnatal depression but family member specially life partner should provide mental support & should concern about physical changes and wellbeing.

References

Akiskal, H. S. (1983). The Relationship of personality to affective disorders: A critical review arch. General *Psychiatry*, *40*, 801.

Areias, M. E., Kumar, R., Barros, H., & Figueredo, E. (1996). Correlates of postnatal depression in mothers and fathers. *British Journal of Psychiatry, 169,* 36–41.

Bolger, N., & Zuckerman, A. (1995). A framework for studying personality in the stress process. *Journal of Personality and Social Psychology, 69*(5), 890–902.

Boyce, P., Hickey, A., & Gilchrist, J., (2001). The development of a brief personality scale to measure vulnerability to postnatal depression. *Archives of Women's Mental Health, 3*, 147–153. https://doi.org/10.1007/s007370170012

Caughlin, J. P., Huston, T. L., & Houts, R. M. (2000). How does personality matter in marriage? An examination of trait anxiety, interpersonal negativity, and marital satisfaction. *Journal of Personality and Social Psychology, 78(2),* 326–336. https://doi.org/ 10.1037/0022-3514.78.2.326

Chioqueta, A. P., & Stiles, T. C. (2005). Personality traits and the development of depression, hopelessness, and suicide ideation. *Personality and Individual Differences, 38,* 1283–1291.

Corr, P. J. (2008). "The reinforcement sensitivity theory," in *the reinforcement sensitivity theory of personality*, ed. Corr P. J. (Cambridge: Cambridge University Press).

Corr, P. J., & Cooper, A. J. (2016). The reinforcement sensitivity theory of personality questionnaire (RST-PQ): Development and validation. *Psychological Assessment, 28*(11), 1427–1440. https://doi.org/10.1037/pas0000273

Costa, P. T., & McCrae, R. R. (1985). *The NEO personality inventory manual.* Odessa, FL: Psychological Assessment Resources.

Costa, P. T., Jr., & McCrae, R. R. (1992). *Revised NEO personality inventory (NEO–PI–R) and NEO five-factor inventory (NEO–FFI) professional manual.* Odessa, FL: Psychological Assessment Resources.

Cowan, C. P., & Cowan, P. A. (2000). *When partners become parents: The big life change in couples.* Mahwah, NJ: Erlbaum.

Cox, J. L., Holden, J. M., Sagovsky, R. (1987). Detection of postnatal depression: Development of the 10-item Edinburgh postnatal depression scale. *British Journal of Psychiatry, 150,* 782–786. https://doi.org/10.1192/bjp.150.6.782

Dennis, C. L., Janssen, P. A., & Singer, J. (2004). Identifying women at-risk for postpartum depression in the immediate postpartum period. *Acta psychiatrica Scandinavica*, *110*(5), 338–346. https://doi.org/10.1111/j.1600-0447.2004.00337.x

Digman, J. & Takemoto-Chock, N. (1981). Factors in the natural language of personality: Re-analysis, comparison and interpretation of six major studies. *Multivariate Behavioral Research, 16,* 149–170.

Donnellan, M. B., Conger, R. D., & Bryant, C. M. (2004). The big five and enduring marriages. *Journal of Research in Personality, 38,* 481–504.

Donnellan, M. B., Larsen–Rife, D., & Conger, R. D. (2005). Personality, family history, and competence in early adult romantic relationships. *Journal of Personality and Social Psychology, 88,* 562–576.

Donnellan, M. B., Conger, R. D., & Burzette, R. G. (2007). Personality development from late adolescence to young adulthood: Differential stability, normative maturity, and evidence for the maturity-stability hypothesis. *Journal of Personality, 75,* 453–472.

Dudley, M., Roy, K., Kelk, N., & Bernard, D. (2001). Psychological correlates of depression in fathers and mothers in the first postnatal year. *Journal of Reproductive and Infant Psychology, 19,* 187–202.

Feldman, R. S. (2012). *Understanding Psychology*. McGraw-Hill Education.

Fraley, R. C., & Roberts, B. W. (2005). Patterns of continuity: A dynamic model for conceptualizing the stability of individual differences in psychological constructs across the life course. *Psychological Review, 112*(1), 60–74. https://doi.org/10.1037/0033-295X.112.1.60

Gausia, K., Fisher, C., Algin, S., & Oosthuizen, J. (2007). Validation of the Bangla version of the Edinburgh postnatal depression scale for a Bangladeshi sample. *Journal of Reproductive and Infant Psychology*, *25*(4), 308–315. https://doi.org/10.1080/02646830701644896

Grace, S. L., Evindar, A., & Stewart, D. E. (2003). The effect of postpartum depression on child cognitive development and behavior: A review and critical analysis of the literature. *Archives of Women's Mental Health,* 6, 263–274. https://doi.org/10.1007/s00737-003-0024-6

Gunthert, K. C., Armeli, S., & Cohen, L. H. (1999). The role of neuroticism in daily stress and coping. *Journal of Personality and Social Psychology,* 77, 1087–1100.

Hammen, C. (2006). Stress generation in depression: Reflections on origins, research, and future directions. *Journal of Clinical Psychology, 62,* 1065–1082.

Hanzal, A., & Segrin, C. (2009). The role of conflict resolution styles in mediating the relationship between enduring vulnerabilities and marital quality. *Journal of Family Communication, 9(3),* 150–169. https://doi.org/10.1080/15267430902945612

Hellmuth, J. C., & McNulty, J. K. (2008). Neuroticism, marital violence, and the moderating role of stress and behavioral skills. *Journal of Personality and Social Psychology, 95(1),* 166–180. https://doi.org/10.1037/0022-3514.95.1.166

Hirschfeld, R. M., (1999). Personality disorders and depression: Comorbidity depression and *anxiety, 10,* 142–146. https://doi.org/10.1037/0022-3514.69.5.890

Hughes, K. A., Moore, R. A., Morris, P. H., & Corr, P. J. (2012). Throwing light on the dark side of personality: reinforcement sensitivity theory and primary/secondary psychopathy in a student population. *Personality and Individual Differences, 52*, 532–536. https://doi.org/10.1016/j.paid.2011.11.010

Hutchinson, J. G., & Williams, P. G. (2007). Neuroticism, daily hassles, and depressive symptoms: An examination of moderating and mediating effects. *Personality and Individual Differences, 42(7),* 1367–1378. https://doi.org/10.1016/j.paid.2006.10.014

Imširagić, A. S., Begić, D., Vuković, I. S., Šimićević, L., & Javorina T. (2014). Multivariate analysis of predicturs of depression symptomatology after childbirth. *Psychiatria Danubina, 26*, 416–421.

John, O. P., & Srivastava, S. (1999). The big five trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (2nd ed., pp. 102–138).

Jones, L., Scott, J., Cooper, C., Forty, L., Smith, K. G., Sham, P., Farmer, A., McGuffin, P., Craddock, N., & Jones, I. (2010). Cognitive style, personality and vulnerability to postnatal depression. *The British Journal of Psychiatry*, *196*(3), 200–205. https://doi.org/10.1192/bjp.bp.109.064683

Kendler, K. S., & Myers, J. (2010). The genetic and environmental relationship between major depression and the five-factor model of personality. *Psychological Medicine, 40(5)*, 801–806. https://doi.org/10.1017/S0033291709991140

Kotov, R., Gamez, W., Schmidt, F., & Watson, D. (2010). Linking "big" personality traits to anxiety, depressive, and substance use disorders: A meta–analysis. *Psychological Bulletin, 136,* 768–821.

Maliszewska, K., Bidzan, M., Świątkowska-Freund, M., & Preis, K. (2016). Personality type, social support and other correlates of risk for affective disorders in early puerperium. *Ginekologia Polska*, *87*, 814–819. https://doi.org/10.5603/GP.2016.0023

Marín-Morales, D., Carmona Monge, F. J., & Peñacoba-Puente, C. (2014). Personality, depressive symptoms during pregnancy and their influence on postnatal depression in spanish pregnant Spanish women. *Anales de Psicología, 30*, 908–915. https://doi.org/10.6018/analesps.30.3.153101

Matthey, S., Barnett, B., Ungerer, J., & Waters, B. (2000). Paternal and maternal depressed mood during the transition to parenthood. *Journal of Affective Disorders, 60,* 75–85.

McCrae, R. R. & Costa, P. T. (1999). A five-factor theory of personality. In L. A. Pervin and O. P. John (Eds.), *Handbook of personality: Theory and research* (139–153). The Guilford Press.

Miller LJ (February 2002). "Postpartum depression". JAMA. 287 (6): 762–5. doi:10.1001/jama.287.6.762. PMID 11851544.

Muhammad, N, Akter, S, & Uddin, E. (2011). *Adaptation of big five personality test for use in Bangladesh* [Unpublished Manuscript]. Jagannath University, Dhaka.

Munk-Olsen, T., Laursen, T. M., Pedersen, C. B., Mors, O., & Mortensen, P. B. (2006). New parents and mental disorders: A population-based register study. *JAMA*, *296*(21), 2582–2589. https://doi.org/10.1001/jama.296.21.2582

Norman, W. (1963). Toward an adequate taxonomy of personality attributes: Replicated factor structure in peer nomination personality ratings. *Journal of Abnormal & Social Psychology, 66,* 574–583. https://www.doi.org/10.1037/h0040291

O'Hara, M. W., & Swain, A. M. (1996). Rates and risk of post–partum depression: A meta–analysis. *International Review of Psychiatry, 8,* 37–54.

Ormel, J., & Wohlfarth, T. D. (1991). How neuroticism, long-term difficulties, and life situation change influence psychological distress: A longitudinal model. *Journal of Personality and Social Psychology, 60(5),* 744–755. https://doi.org/10.1037//0022-3514.60.5.744

Peñacoba-Puente, C., Marín-Morale, S. D., Carmona-Monge, F. J., & Furlong, L. (2016). Post-partum depression, personality, and cognitive-emotional factors: A longitudinal study on Spanish pregnant women. *Health Care for Women International,* 37, 97–117. https://doi.org/10.1080/07399332.2015.1066788

Puckering, C. (2005). Mind the gap! Helping the children of mothers with postnatal depression. *Child: Care, Health and Development,* 31, 7–9. https://doi.org/10.1111/j.1365-2214.2005

Puyané, M., Subirà, S., Torres, A., Roca, A., Garcia-Esteve, L., & Gelabert, E. (2022). Personality traits as a risk factor for postpartum depression: A systematic review and meta-analysis. *Journal of Affective Disorders, 298 (Part A)*, 577–589

Robertson, E., Grace, S., Wallington, T., & Stewart, D. E. (2004). Antenatal risk factors for postpartum depression: A synthesis of the recent literature. *General Hospital Psychiatry, 26,* 289–295.

Soares CN, Zitek B (July 2008). "Reproductive hormone sensitivity and risk for depression across the female life cycle: a continuum of vulnerability?". Journal of Psychiatry & Neuroscience. 33 (4): 331–43. PMC 2440795. PMID 18592034.

Song, Y., Sun, H., Song, R., Wu, Y., & Qi, F. (2010). The impact of personality and coping style on postpartum depression. *Chinese Journal of Behavioral Medical Science,* 994–995.

Stotland, N. L., & Stotland, N. E. (1999). Focus on primary care: Depression in women. *Obstetrical & Gynecological Survey, 54*, 519–525. https://doi.org/10.1097/00006254-199908000-00022

Udovičić, S. (2014). Big five personality traits and social support as predictors of postpartum depression. *Journal of European Psychology Students, 5*, 66–73. https://doi.org/10.5334/jeps.ck

Van Os, J, & Jones, P. B. (1999). Early risk factors and adult person--environment relationships in affective disorder. *Psychological Medicine, 29(5),* 1055–67. https://doi.org/10.1017/s0033291799001026

Vater, A., & Schröder–Abé, M. (2015). Explaining the link between personality and relationship satisfaction: Emotional regulation and interpersonal behavior in conflict discussions. *European Journal of Personality, 29,* 201–215.

Verkerk, G., Denollet, J., Van Heck, G., Van Son, M., & Pop, V. (2005). Personality factors as determinants of depression in postpartum women: A prospective 1-year follow-up study. *Psychosomatic Medicine, 67,* 632–637. https://doi.org/10.1097/01.psy.0000170832.14718.98

Yonkers KA, Ramin SM, Rush AJ, Navarrete CA, Carmody T, March D, et al. (November 2001). "Onset and persistence of postpartum depression in an inner-city maternal health clinic system". *The American Journal of Psychiatry*. 158 (11): 1856–63. doi:10.1176/appi.ajp.158.11.1856. PMID 11691692

Jagannath University Journal of Psychology, Vol. 12, 41-50, 2023 ISSN 2225-4439

Research Article

Mental Health Status of Mental Health Professionals of Pabna Mental Hospital

Nazia Afrin[1], Tarun Kumar Joarder[2], Md. Rony Hossan[3], and Ehtesamul Haque Robin[1]

Received date: December, 2023
Revised date: March, 2024
Accepted date: May, 2024

Abstract

A healthy and productive life is inextricably linked to mental health. However, little is known about the mental health of health professionals. This study aimed to investigate the prevalence of mental health issues among mental health professionals. This paper also explores potential gender differences in these outcomes. This study used a purposive sampling technique to enlist 60 mental health professionals (26 men and 34 women) from Pabna Mental Hospital. Psychological distress has been evaluated using the General Health Questionnaire 28 (GHQ-28). The results showed that 5% of the individuals had psychological distress, which is a concerning number of mental health difficulties. Moreover, the respondents reported experiencing moderate to severe somatic distress, anxiety, social dysfunction, and depression. This study demonstrated that female participants had considerably more anxiety and sleep disturbance than male participants. This study also indicated that female participants have significantly higher depression than male participants. This study's findings would suggest that they would help mental health practitioners become more conscious of their mental health.

Keywords: mental health, mental health professionals, mental hospital

Introduction

The World Health Organization (WHO) conceptualizes mental health as a “state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community” (WHO, 2014). American Psychologist Rollo May, the father of existential psychology, expressed the view that being mentally healthy means being able to cope with neurosis rather than simply being free of it (May, 1958). "No health without mental health" is a statement that is supported by the WHO, the Pan American Health Organization, the EU Council

[1]Department of Clinical Psychology, University of Rajshahi, Rajshahi
[2]Department of Psychology, University of Rajshahi, Rajshahi
[3]Department of Psychology, Jagannath University, Dhaka
Corresponding concerning this article should be addressed to Md. Rony Hossan, Department of Psychology, Jagannath University, Dhaka. Email: mohammadrony6229@gmail.com

of Ministers, the World Federation of Mental Health, and the UK Royal College of Psychiatrists (WHO European Ministerial Conference, 2005). The World Health Report estimates that there are over 450 million persons with mental, neurological, or psychosocial diseases globally, and that figure is rising (WHO, The World Health Report, 2001). However, over 90% of people with mental illness in low-resource countries do not obtain treatment, compared to 2/3 in wealthy nations (Patel & Thornicroft, 2009).

The same situation exists in Bangladesh. Bangladesh as a lower middle-income country in South Asia, ranks ninth in the world in population with 163 million people (World Bank, 2019). Thus, Bangladesh bears a tremendous burden of illness due to both communicable and non-communicable diseases, including mental problems, with only 4 hospital beds per 10,000 inhabitants (Islam et al., 2014). In a 2003-2005 survey, it was found that 16.05% of Bangladeshi adults had mental disorders, with higher rates in women (19%) than in men (12.9%) (Firoz et al., 2006). Similarly, in 2009, a community-based survey revealed that 18.4% of youngsters had mental illnesses (Gausia et al., 2009). The lack of public mental health facilities, the scarcity of skilled mental health professionals, the unequal distribution of financial resources, and stigma are among the obstacles to accessing mental healthcare in Bangladesh.

A qualified healthcare provider is specialized in mental health. There are many different expertise and care modalities among mental health specialists. Whatever their areas of expertise, all of them have as their primary concern the care and well-being of their patients or clientele. There is a noticeable shortage of qualified people who are equipped to address mental health issues throughout many countries. Counsellors, psychiatrists, psychologists, social workers, nurses, and other specialized professions are all included in this shortage of mental health specialists. Surprisingly, there is only one psychiatrist accessible for every 200,000 or more people in about half of the world's countries (WHO, 2022). Likewise, the lack of qualified personnel in psychosocial or mental health in Bangladesh poses a significant obstacle to the provision of mental health services. For instance, for every 100,000 people, there are 0.49 human resources working in mental health facilities or in private practice. The breakdown is as follows by profession: Psychiatrists make up a relatively small portion of the workforce (7.39%), followed by non-psychiatric medical professionals (18.21%), nurses (19.64%), psychologists (0.71%), social workers (0.21%), occupational therapists (0.21%), and other health or mental health professionals (2.86%). Psychiatrists operate in both the public and private sectors in equal measure (54%) and exclusively in the private sector (46%) (Islam & Biswas, 2015).

Mental health professionals, like anyone else, can also struggle with their mental health. In fact, the nature of their work often puts them at higher risk of experiencing mental health issues. Professionals working in these environments encounter numerous difficulties, such as high levels of stress, trauma exposure, and emotional strain, all of which can have an adverse effect on their mental health. It is essential to frequently engage in emotional and empathetic communication with patients and their families because of the nature of providing mental health care. Additionally, problematic, and difficult patient behavior may occasionally present itself to mental health experts (Jenkins & Elliott, 2004). Long-term exposure to these job stressors affects mental health professionals' well-being and diminishes their capacity to deliver high-quality

patient care (Volpe et al., 2014). It is crucial for mental health professionals to care for their own mental well-being so they can offer the best care to their clients. By recognizing and addressing their own mental health needs, mental health professionals can maintain their effectiveness and continue to make a positive impact in the lives of others.

Empirical evidence showed the mental health state of mental health practitioners. For example, Picco et al. (2017) examined the positive mental health of 462 staff members at Singapore's Institute of Mental Health. They found that whereas age and ethnicity were only strongly correlated with domain-specific scores, gender, marital status, residency status, and staff position were not. Furthermore, there was a strong correlation between job happiness and general mental health. Additionally, recent cross-sectional research conducted in Finland uncovered some intriguing findings. This study indicated that despite psychiatric nurses reporting lower subjective health and work ability compared to their non-psychiatric nursing counterparts, they exhibited superior mental well-being and experienced fewer sleep problems than medical and surgical nurses. Surprisingly, it appears that psychiatric nurses are less prone to sleep disturbances and enjoy better mental health even when dealing with aggressive patients, setting them apart from their non-psychiatric nursing peers (Pekurinen et al., 2017).

Moreover, a similar study was carried out by Ismail (2022) on 42 nurses working in psychiatric hospitals in Baghdad. They discovered that 68.3% of nurses had moderate levels of psychological statues, while 31.7% had low levels. The author also discovered an association between low psychological status and academic level. Likewise, Oliveira et al. (2020) suggested that 32.2% of nursing staff at a psychiatric hospital in Rio de Janeiro, Brazil had MPD suspicions. Furthermore, in a groundbreaking examination of mental well-being among psychiatric nurses in China, led by (Wang, 2022) and documented a compelling correlation between coping strategies and sleep quality. Their research, which involved 812 psychiatric nurses in Shandong, revealed that an astonishing 71% of participants experienced psychological distress.

A few studies were conducted in Bangladesh on mental health professional to examine their mental status. For example, the 128 nurses employed by Sir Sali mullah Medical College and Hospital (SSMC) in Bangladesh participated in a descriptive cross-sectional survey. According to this study, around 60.0% of nurses had a problematic mental health condition, and 50.6% of nurses had medical concerns with anxiousness (Faruk et al., 2023). Similarly, Rahman et al. (2021) reported that 347 physicians experienced stress (48.4%), depression (55.3%), and anxiety (35.2%), where female physicians reported more stress than their counterparts during COVID-19 period in Bangladesh. Similarly, Hossain et al. (2021) led an online cross-sectional study. They documented that frontline health professionals experienced higher anxiety and depression than non-frontline professionals during the early stages of the COVID-19 pandemic in Bangladesh. This study also outlined the prevalence of depression, anxiety, and fear among health professionals, which were 55.2%, 71.9%, and 60.6%, respectively. In addition, empirical studies conducted in Bangladesh on health professionals also showed that emotional abuse in the workplace, working hours, and workplace hazards, namely psycho-social, biological, and physical, are the causes behind the experience of anxiety, depression, and stress (Chowdhury et al., 2021; Khatun et al., 2021; Zaman et al., 2023). Based on the above discussion, there is a

scarcity of studies to explore the health status of mental health professional in Bangladeshi perspective, more specifically, mental health practitioners of Pabna mental health hospital in Bangladesh. Thus, we intend to examine the mental health status of mental health professional in Pabna mental hospital.

Aims of the Current Study

1. To evaluate the overall mental health status of professionals working at the mental hospital in Pabna using the GHQ-28 scale.
2. To investigate the prevalence of somatic symptoms among professionals working at the mental hospital, Pabna.
3. To determine the frequency of anxiety symptoms experienced by professionals working at the mental hospital, Pabna.
4. To explore the extent of social disturbance experienced by professionals working at the mental hospital, Pabna.
5. To assess the severity of depressive symptoms among professionals working at the mental hospital, Pabna.

Method

Participants

This research was carried out at Pabna Mental Hospital in Bangladesh from March to April 2023. We used a cross-sectional study design to collect data from 60 diverse participants through purposive sampling, where the total number of mental health professionals during the data collection period was 80. Among them, 34 (56.7%) were male, and 26 (43.3%) were female. The majority, 36 (60%) of the participants were in the 40-59 (middle age) group, and the rest of them, 24 (40%) were in the 20-39 (young adulthood) age group. Of the participants, 95.0% were married, 1.7% were unmarried, and 3.3 % were widows. Most of the sample was nurses working at this hospital, including Senior Staff Nurse (SSN), Staff Nurse (SN), and Assistant Nurse (AN); the rest of the participants were other professionals, including psychiatrists, medical officers, and psychiatric social workers (Table 1). Nurses and doctors were willing to participate in this study. However, pregnant workers, sick nurses, and doctors, respondents with chronic illness, and those busy discharging their services were excluded from participation.

Measures

GHQ Questionnaire

In 1978, Goldberg developed the GHQ-28, which has since been translated into 38 languages (Sterling, 2011). It is a set of 28 questions to identify individuals at risk of psychiatric illnesses (Goldberg, 1978). These items focus on the gap between psychological illness and psychological wellness. Banoo (2001) translated it into Bangla. The assessment measures psychological distress by giving a total score and assessing four specific areas: physical symptoms (items 1–7), anxiety/sleep issues (items 8–14), social difficulties (items 15–21), and severe depression (items 22–28) (Goldberg, 1978). Four possible responses are provided for each item: *Not at all*, *not much more than normal*, *but rather more than usual*. The GHQ-28 can be

graded in a variety of ways. With a total possible score on the range of mental disturbance, it can be scored from 0 to 3 for each response. Additionally, a score of 39 or higher indicates a considerable level of psychiatric disorder. Each subscale can be scored as high as 21. Scores between 0 and 6 indicate minimal stress, 7 to 13 indicate moderate stress, and 14 to 21 indicate severe stress. It has been said that this measurement has good psychometric qualities. Numerous studies have validated the GHQ-28's reliability and validity in many clinical groups. Studies have shown strong test-retest reliability, ranging from 0.78 to 0.9 (Robinson & Price, 1982), and excellent interrater reliability with Cronbach's alpha values between 0.90 and 0.95 (Failde & Ramos, 2000).

Table 1

The Study Population's Sociodemographic Characteristics (N = 60)

Socio Demographic Variable	*N*	%
Gender		
Male	26	43.3
Female	34	56.7
Age group		
20-39 (young adulthood)	24	40
40-59 (middle adulthood)	36	60
Marital status		
Married	57	95
Unmarried	1	1.7
Divorced	0	0
Widow	2	3.3
Designation		
SSN	42	70
SN	6	10
AN	6	10
OTHERS	6	10

Note. SSN = Senior Staff Nurse, SN =Staff Nurse, AN =Assistant Nurse.

Procedure

The researcher approached nurses and doctors to participate in this study. The study's objectives and general guidelines were given to the selected participants. Before starting the trial, informed permission was obtained. The participants were requested to read the questionnaire points and respond to each item. They were permitted to answer in private and at their own pace. The sick workers and those busy discharging their services were excluded from participation. The participation was entirely voluntary. Data were collected by face-to-face interviews using these questionnaires. The researcher then carefully screened for the completeness of each questionnaire point immediately. If there were any missing data, the participants were asked again to complete them before entering the data into the computer for analysis. After completion of their questionnaire, respondents were thanked for their cooperation. Confidentiality and anonymity were strictly maintained in each step.

Data Analysis

Responses were coded, graded, and entered into a computer data file once the raw data was collected. The Statistical Package for the Social Science 25 (SPSS) computer program was used to conduct all statistical analyses. Both descriptive and inferential statistics were applied to the data analysis. The alpha level was established at 0.05.

Results

According to the GHQ-28 scale, Figure 1 suggested that 83.3% of the participants experienced somatic distress, 15% had moderate somatic distress, and 1.7% had severe somatic distress. While 68.3% of the participants experienced anxiety and sleep disturbance; among them, 28.3 % had moderate anxiety, and 3.3 % had severe anxiety. On the other hand, 38.3% of the participants experienced social dysfunction. 81.7% experienced depression, 16.7% of the participants experienced moderate levels of depression, and 1.7 % experienced severe depression (Figure 1).

Figure 1

The Prevalence of Somatic Distress, Anxiety, Social Dysfunction, and Depression Among Professionals (N = 60)

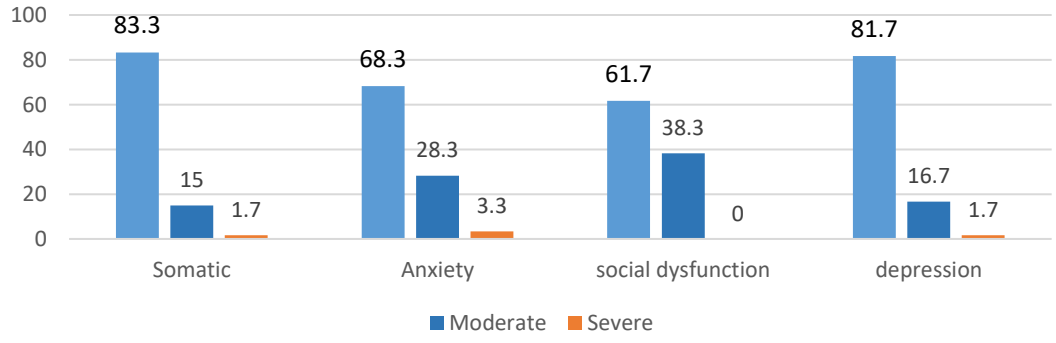


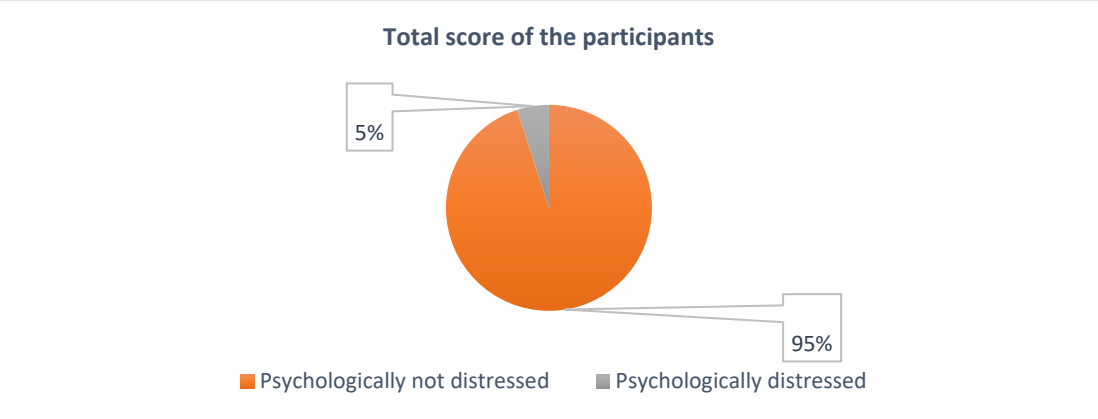
Table 2

Mental Health State of the Respondents.

Mental health state	Score	*N*	*%*
Mental health score under threshold (Psychologically healthy)	0-38	57	95
Mental health score over threshold (Psychologically unhealthy)	39-84	3	5

Figure 2

Mental Health State of the Respondents



Discussion

This study aimed to explore the mental health of professionals at Pabna Mental Hospital. For our evaluation, we employed a Bangla version of the GHQ-28. A purposive sampling technique was employed to recruit a total of 60 participants. Among them, 26 were male, and 34 were female. In this section, we discussed our findings based on the empirical evidence.

The findings of this study indicated that 5 percent of the participants were identified as psychologically unhealthy based on the GHQ-28 scores. Our findings align with the previous literature. For example, a study of psychiatric nurses employed at mental health facilities in Baghdad, Iraq, revealed that 31.7% of them have poor psychological status (Ismail, 2022). Another study conducted in China found that after encounters with aggressive patients, psychiatric nurses keep their mental health better and have fewer sleep issues. Among the respondents, 16.7% had symptoms of moderate to severe Somatic distress. This implies that a significant proportion of the participants reported physical symptoms associated with mental health problems. The high prevalence of somatic distress may indicate that the work environment and job-related stressors are impacting the physical well-being of the professionals.

Our findings presented that among the individuals, 31.6% reported having mild to severe anxiety, of which 28.3% reported having moderate anxiety and 3.3% had severe anxiety. Many of the professionals of Mental Hospital Pabna appear to be struggling with a great deal of anxiety.

This might be because of their demanding work, contact with critically ill patients, and management of life-or-death circumstances. The study also discovered that 38.3% of them, a sizeable portion, had problems with their social lives. This indicates that they had issues relating to others, finding social support, and interacting in social situations, perhaps because of their profession's rigorous and emotionally taxing nature. In addition, 18.1% of the subjects reported feeling depressed, with moderate depression affecting 16.7% and severe depression affecting 1.7%. Our results are consistent with the findings of Rahman et al. (2021), who showed that 347 physicians experienced stress (48.4%), depression (55.3%), and anxiety (35.2%).

Similarly, Hossain et al. (2021) revealed that frontline health professionals witnessed higher anxiety, stress, and depression, fear than non-frontline professionals during the pandemic in Bangladesh. This suggests that a notable proportion of the participants experienced depressive symptoms. Addressing depression among mental health professionals is crucial to preventing burnout, enhancing job satisfaction, and maintaining their overall well-being. Table 3 showed that there was a significant difference in anxiety and sleep disturbance between the sexes of the participants, indicating that female professionals had significantly higher Anxiety and Sleep disturbance than Male professionals. Table 4 revealed that there was a significant difference in depression between the sexes of the participants, which indicates that female professionals had significantly higher depression than Male professionals.

Limitations of the Study

This study has some limitations. Only 60 people from a purposive sample were included, which restricts the findings' capacity to be applied to a broader population. The study also used self-report measures, which might be influenced by social desirability and response biases. To acquire a deeper understanding of the mental health issues experienced by mental health professionals in comparable contexts, future studies might consider using more significant sample numbers and a combination of quantitative and qualitative methodologies.

Conclusion

This study's findings provided a complete picture of the mental health of health professionals at Pabna Mental Hospital. These occupations have high rates of bodily distress, anxiety, social dysfunction, and depression. In contrast, female professionals experience higher levels of psychological distress than male counterparts, which highlights the need for preventative measures to enhance their mental health. Implementing interventions such as stress management programs, regular psychological assessments, and providing access to mental health resources can be beneficial in mitigating the negative impact on mental health and improving the overall work environment. Furthermore, promoting a supportive and collaborative culture within the workplace can enhance social support and facilitate better mental health outcomes for health professionals.

References

Banoo, N. (2001). The translated Bangla version of GHQ-28. *Department of Clinical Psychology, University of Dhaka*.

Chowdhury, S. R., Sunna, T. C., Das, D. C., Kabir, H., Hossain, A., Mahmud, S., & Ahmed, S. (2021). Mental health symptoms among the nurses of Bangladesh during the COVID-19

pandemic. *Middle East Current Psychiatry, Ain Shams University, 28(1),* 23. https://doi.org/10.1186/s43045-021-00103-x

Failde, I., & Ramos, I. (2000). Validity and reliability of the SF-36 health survey questionnaire in patients with coronary artery disease. *Journal of Clinical Epidemiology*, *53*(4), 359–365. https://doi.org/10.1016/s0895-4356(99)00175-4

Faruk, M. O. Kayesh, I., Huq, M., Manjur, S., Islam, K., & Begum, S. (2023). Mental health status among the nurses working at a tertiary level hospital in Dhaka, Bangladesh. *OIRT Journal of Medical and Health Sciences, 3*(1). 8–13.

Firoz, A. H. M., Karim. M. E., Alam, M. F., Rahma, A H. M. M., & Zaman, M. M. (2006). Prevalence, medical care, awareness and attitude towards mental illness in Bangladesh. *Bangladesh Journal of Psychiatry*.

Gausia, K., Fisher, C., Ali, M., & Oosthuizen, J. (2009). Antenatal depression and suicidal ideation among rural Bangladeshi women: A community-based study. *Archives of Women's Mental Health*, *12*(5), 351–358. https://doi.org/10.1007/s00737-009-0080-7

Goldberg, D. P. (1978). Manual of the general health questionnaire. NFER Publishing Company. Windsor, England.

Hossain, M. R., Patwary, M. M., Sultana, R., & Browning, M. H. E. M. (2021). Psychological distress among healthcare professionals during the early stages of the Covid-19 outbreak in low resource settings: A cross-sectional study in Bangladesh. *Frontiers in Public Health*, *9*, 701920. https://doi.org/10.3389/fpubh.2021.701920

Islam, A., & Biswas, T. (2015). Mental health and the health system in Bangladesh: Situation analysis of a neglected domain. *American Journal of Psychiatry and Neuroscience*, *3*(4), 57–62. https://doi.org/10.11648/j.ajpn.20150304.11

Islam, S. M., Rahman, F. H., & Siddiqui, M. R. (2014). Bangladesh is experiencing double burden with infectious diseases and non-communicable diseases (NCD's): An issue of emerging epidemics. *Anwer Khan Modern Medical College Journal*, *5*, 46–50.

Ismail, M. (2022). Psychological health among nursing staff in psychiatric hospitals. *Journal of Research in Psychology and Education*.

Jenkins, R., & Elliott, P. (2004). Stressors, burnout and social support: Nurses in acute mental health settings. *Journal of Advanced Nursing*, *48*(6), 622–631. https://doi.org/10.1111/j.1365-2648.2004.03240.x

Khatun, M. F., Parvin, M. F., Rashid, M. M., Alam, M. S., Kamrunnahar, M., Talukder, A., Rahman Razu, S., Ward, P. R., & Ali, M. (2021). Mental health of physicians during covid-19 outbreak in Bangladesh: A web-based cross-sectional survey. *Frontiers in Public Health, 9,* 592058. https://doi.org/10.3389/fpubh.2021.592058

May, R. (1958). Contributions of existential psychotherapy. In R. May, E. Angel, & H. F. Ellenberger (Eds.), *Existence: A new dimension in psychiatry and psychology* (pp. 37–91). Basic Books/Hachette Book Group. https://doi.org/10.1037/11321-002

Oliveira, E. B., Silva, S. R. C. S. D., Sora, A. B., Oliveira, T. S., Valério, R. L., & Dias, L. B. S. (2020). Minor psychic disorders in nursing workers at a psychiatric hospital. *Revista da Escola de Enfermagem da U S P*, *54*, e03543. https://doi.org/10.1590/s1980-220x2018031903543

Patel, V., & Thornicroft, G. (2009). Packages of care for mental, neurological, and substance use disorders in low- and middle-income countries: *PLoS Medicine Series. PLoS medicine*, *6*(10), e1000160. https://doi.org/10.1371/journal.pmed.1000160

Pekurinen, V., Willman, L., Virtanen, M., Kivimäki, M., Vahtera, J., & Välimäki, M. (2017). Patient aggression and the wellbeing of nurses: A cross-sectional survey study in psychiatric and non-psychiatric settings. *International Journal of Environmental Research and Public Health*, *14*(10), 1245. https://doi.org/10.3390/ijerph14101245

Picco, L., Yuan, Q., Vaingankar, J. A., Chang, S., Abdin, E., Chua, H. C., Chong, S. A., & Subramaniam, M. (2017). Positive mental health among health professionals working at a psychiatric hospital. *PloS one*, *12*(6), e0178359. https://doi.org/10.1371/ journal.pone. 0178359

Rahman, A., Deeba, F., Akhter, S., Bashar, F., Nomani, D., Koot, J., Koly, K. N., Salah, F. B., Haverlag, K., & Anwar, I. (2021). Mental health condition of physicians working frontline with COVID-19 patients in Bangladesh. *BMC Psychiatry*, *21*(1), 615. https://doi.org/10.1186/s12888-021-03629-w

Robinson, R. G., & Price, T. R. (1982). Post-stroke depressive disorders: A follow-up study of 103 patients. *Stroke*, *13*(5), 635–641. https://doi.org/10.1161/01.str.13.5.635

Sterling, M. (2011). General health questionnaire-28: Clinmetrics. *Journal of Physiotherapy*, *5*, 259.

Volpe, U., Luciano, M., Palumbo, C., Sampogna, G., Del Vecchio, V., & Fiorillo, A. (2014). Risk of burnout among early career mental health professionals. *Journal of Psychiatric and Mental Health Nursing*, *21*(9), 774–781. https://doi.org/10.1111/jpm.12137

Wang, J., Zheng, Z., Tang, Y., Zhang, R., Lu, Q., Wang, B., & Sun, Q. (2022). Psychological distress and its influencing factors among psychiatric nurses in China: A cross-sectional study. *Frontiers in Psychiatry*, *13*, 948786. https://doi.org/10.3389/fpsyt.2022.948786

WHO. (2001). The world health report.

WHO. (2014). Mental health: A state of well-being. World Health Organization.

WHO European Ministerial conference. (2005). Mental health: Facing the challenges, building solutions. Copenhagen, Denmark: WHO Regional Office for Europe.

World Bank. (2019). Bangladesh - World Bank Open Data. World Bank Group.

WHO. (2022). World mental health report: Transforming mental health for all. Geneva: World Health Organization.

Zaman, Z., Shanjabin, S., & Islam, S. A. (2023). Impact of occupational hazards on healthcare professionals' mental (psychological) health: Evidence from government-owned hospitals in Khulna, Bangladesh. *International Journal of Human Resource Studies, 13*(1), 138–143. https://doi.org/10.5296/ijhrs.v13i1.20492

Jagannath University Journal of Psychology, Vol. 12, 51-60, 2023 ISSN 2225-4439

Research Article

Anxiety and Emotional Intelligence in Bangladeshi Adolescents

Md. Shahadat Hossain[1], Md. Juwel Sheikh[1], Anita Mehjabeen Ria[1], and Nafisa Nasir[1]

Received date: January, 2024
Revised date: March, 2024
Accepted date: June, 2024

Abstract

The current study aimed to assess the anxiety and emotional intelligence of Bangladeshi adolescents. A total of 298 students (149 boys and 149 girls) from various government schools of Gopalganj were chosen by convenience sampling. The Personal Information Form, the Anxiety Scale, and the Emotional Intelligence (EI) Scale were used to gather data. Data were analyzed using the *t*-test and Pearson product moment correlation. The relationship between anxiety and emotional intelligence was found to be negative (r = -.107, p < .05). The findings revealed that boys showed significantly lower anxiety (M = 33.32) than girls (M = 46.39; t = -6.393, p < .05). The findings additionally demonstrated significant difference (t = 3.673, p < .05) in emotional intelligence for boys exhibiting considerably higher (M = 126.07) than girls (M = 122.10). The anxiety levels of adolescents from nuclear families were found to be substantially lower (M = 34.98) than those of their joint family counterparts (M = 42.31; t = -3.230, p < .05). The study findings also demonstrated a significant difference in emotional intelligence (t = 3.396, p < .05) between adolescent living in joint and nuclear families. Adolescents in urban environments demonstrated reduced levels of anxiety (M = 33.49) in contrast to those in rural areas (M = 46.66; t = -6.444, p < .05). Additionally, it was also evident that adolescent in urban areas have greater levels of emotional intelligence (M = 125.65) than those in rural areas (M = 122.42; t = 2.964, p < .05).

Keywords: anxiety, emotional intelligence, adolescent

Introduction

Anxiety refers to excessive concern, fear, and physical symptoms including tense muscles, a fast heartbeat, and trouble breathing (American Psychiatric Association, 2013). Studies show that anxiety prevalence among adolescents in Bangladesh ranges from 14% to 27%, highlighting the importance of this issue (Chowdhury et al., 2019; Rahman et al., 2018). This frequency is greater than the 8.5% of global average (World Health Organization, 2019), requiring urgent attention to

[1]Department of Psychology, Bangabandhu Sheikh Mujibur Rahman Science and Technology University, Gopalganj

Corresponding concerning this article should be addressed to Md. Shahadat Hossain, Lecturer, Department of Psychology, Bangabandhu Sheikh Mujibur Rahman Science and Technology University, Gopalganj. Email:shahadathossainjnu1994@gmail.com

this issue. Anxiety negatively influences on emotional health, resulting in depression, low self-esteem, and feelings of loneliness (LeBeau et al., 2019). According to Eggert et al. (2016), anxiety can interfere with concentration which can impair academic performance and educational attainment. Anxiety and performance pressure can be exacerbated by high academic standards and fierce competition for few educational chances (Chowdhury et al., 2019). Anxiety can be significantly induced by family conflict, domestic abuse, and a lack of parental support (Rahman et al., 2018). The stigma associated with mental health problems can keep adolescent isolated from the anxiety treatment they need, which can prolong their suffering and make their symptoms worse (Bhuiyan et al., 2016).

A number of factors play a pivotal on the development of anxiety in adolescents, emotional intelligence (EI) is one of them. Emotional intelligence (EI) is defined as the capacity to recognize, utilize, control, and sense the feelings of others as well as one's own (Salovey & Mayer, 1990). Many research supports the idea that adolescent with higher emotional intelligence (EI) have lower anxiety levels. According to Ciarrochi et al. (2005) adolescents with higher EI showed an improved emotion regulation technique, which helps them reduce the feelings of anxiety and depression. Martins et al. (2020) found a negative interconnection between emotional intelligence (EI) and social anxiety in adolescents. Their findings show that prosocial skills and socio-emotional awareness are vital for enhancing better social relationships and reducing anxiety in social circumstances. People with high emotional intelligence (EI) are better able to control strong emotions like dread or worry induced from anxiety (Sanz et al., 2016). Adolescents having strong emotional intelligence are better able to negotiate social complexities, settle disputes amicably, and form sustaining bonds with others (Ciarrochi et al., 2005). This reduces the feelings of loneliness and increases a sense of belonging, two things that are consider as the risk factors for anxiety. To investigate the possible relationship between anxiety and emotional intelligence several theoretical frameworks have been used. According to the cognitive-emotional regulation model, individual with higher emotional intelligence (EI) use adaptive emotion regulation techniques to manage stressful situations more effectively resulting in reduced anxiety (Gross & Thompson, 2007). On the other hand, those having low EI may find it difficult to control their negative emotions, which can induce anxiety and lead them to use unhealthy coping techniques.

According to Fernandez-Berrocal et al. (2012), there is a substantial inverse connection between adolescent anxiety and emotional intelligence. Cejudo et al. (2013) revealed that adolescents who possessed greater levels of emotional comprehension and regulation, two essential components of emotional intelligence, were less stressed and anxious. Tejada-Gallardo et al. (2022) highlighted emotion management function in coping with anxiety-provoking events by reporting a negative association between anxiety and this particular EI component. Some studies expressed a bidirectional association between EI and anxiety; the predominant focused on the negative correlation between the two constructs. Garcia-Lopez et al. (2019) found that deficiencies in EI skills including emotion awareness and regulation could result from elevated anxiety, particularly social anxiety. According to further research by Sakurai et al. (2022) self-awareness another essential element of emotional intelligence which may be an influential factor in reducing

symptoms of anxiety in adolescents. They are better able to comprehend and control their anxiousness when they are aware of their own feelings. According to a longitudinal study conducted by Brackett et al. (2006) adolescents with higher EI at the start of the study reported less anxiety and depression than those with lower EI. This shows that early EI skill development can work as a buffer against mental health problems in the future.

Limited research has examined anxiety and emotional intelligence (EI) among Bangladeshi adolescents, particularly within nuclear and joint family structures. Hasan et al. (2019) found higher anxiety levels in joint family adolescents because of increased family conflicts and reduced autonomy. EI has shown to reduce anxiety across cultures (Zychowska et al., 2020), yet its role in Bangladeshi family contexts remains unclear. Research carried out in the urban areas of Bangladesh has shown relatively higher levels of anxiety symptoms among adolescents, which can be attribute to variables such as academic demands, peer competition, and socioeconomic stressors (Islam et al., 2019; Khan et al., 2020). On the other hand, studies conducted in rural areas have also shown that anxiety is widespread, typically associated with difficulties such as limited access to mental health resources, poverty, and exposure to environmental factors that cause stress (Ahmed et al., 2018; Hossain et al., 2021). Research conducted in urban areas of Bangladesh has found that adolescents have higher levels of emotional intelligence. This is believed to be due to factors such as access to education, exposure to diverse social experiences, and participation in extracurricular activities (Rahman et al., 2017; Islam & Hossain, 2020). In contrast, studies conducted in rural communities have emphasized the influence of socio-economic factors and cultural norms on emotional intelligence. These studies have shown that adolescents in these areas exhibit different levels of emotional awareness and regulation skills (Kabir et al., 2018; Ahmed et al., 2020).

Adolescents experience significant changes in their physical, cognitive, and socio-emotional development. During this period, individuals undergo significant transformations in their sense of self, interpersonal connections, and strategies for dealing with challenges (Steinberg, 2005). Analyzing the relationship between anxiety and emotional intelligence, which involves the capacity to accurately recognize, comprehend, manage, and communicate emotions in a proficient manner (Mayer et al., 2000), can offer useful insights into the development of adolescents and their mental health outcomes. The societal emphasis on collectivism and emotional suppression may limit adolescents' ability to freely express and understand their feelings, thus preventing the development of healthy emotional intelligence (Chowdhury & Begum, 2019). Although there is still much to learn about EI and anxiety in Bangladesh, a few studies have produced insightful findings. Ahmed et al. (2018) found a negative relationship between anxiety and emotional intelligence (EI) in Dhaka university students. In Bangladesh most of research on emotional intelligence (EI) focuses on adult populations or particular situations, such as university students (Chowdhury & Siddique, 2017; Haque et al., 2015). There is, however, little data on the relationship between anxiety and emotional intelligence among Bangladeshi teenagers. By examining the relationship between emotional intelligence (EI) and anxiety in Bangladeshi teenagers, this study seeks to close this gap.

Aims of the Current Study

1. To determine whether anxiety and emotional intelligence are significantly associated.
2. To determine whether adolescent boys and girls differ significantly in their overall anxiety and emotional intelligence.
3. To investigate whether there is any significant differences in overall levels of anxiety and emotional intelligence between nuclear family and joint family adolescent.
4. To explore whether there is any significant differences in overall levels anxiety and emotional intelligence between urban and rural adolescent.

Method

Participants

A total of 298 students (149 boys &149 girls) of different governmental schools of Gopalganj were included in this study. Convenience sampling technique was used to select participants. Inclusion criteria include- age range between 13 to 16, government school students and exclusion criteria include- age above 16, non-government school students.

Design

In this study cross-sectional survey research design was used.

Measures

Emotional Intelligence Scale (EIS)

To measure emotional intelligence, Bangla version (Hossain & Uddin, 2008) of this scale was used, originally developed by Hyde and colleagues (2002). The scale contains 34 items, 13 are negative items (7, 8, 9, 10, 12, 13, 14, 15, 18, 20, 22, 25, 26) and 21 are positive items. There are five points on this Likert scale ranging 1 (strongly disagree) to 5 (disagree). The negative item's score ranges from 1 to 5, and the positive is 5 to 1. The Cronbach alpha was .862 and split-half reliability was .895. The Bangle version had a high level of construct validity (adjusted item total correlation) and content validity. A high level of emotional intelligence is indicated by a high score on this scale.

Anxiety Scale

To measure anxiety, Bangla version anxiety scale (Deeba & Begumn, 2004) was used. Thirty-six (36) positive items make up the scale. Participants' responses were scored on a five-point Likert scale ranging 0 (never occurs) to 4 (profoundly occurs). For this scale, two types of reliability were found: (a) test-retest reliability, which was.688 ($p < .01$), and (b) internal consistency reliability, where "split-half reliability" was 0.916 ($p < .01$) and "Cronbach's - alpha reliability" was 0.9468. For this scale, estimates of "content validity," "criterion related validity," and "construct validity" were made. When comparing the anxiety scale to the hospital anxiety and depression scale's anxiety subscale, there is a good association ($r = 0.628$). Anxiety scale ratings and psychiatrists' ratings of depression correlated with each other by 0.317 and 0.591, respectively, as did patient self-ratings of depression. The cutoff point is 47.5. The scoring system is as follows: 34 and below = Mild; 55 to 66 = Moderate; 67 to 77 = Severe; 78 to 135 & above = Profound level of depression.

Results

Before applying inferential statistics, the normality of the collected data on anxiety and emotional intelligence scores were checked. Regarding skewness and kurtosis, the suggested range of the data is found between (-1 to + 1), and in the Shapiro-Wilk and Kolmogorov-Smirnov test, p values are above .05 indicating the variables are normally distributed. Pearson product moment correlation and *t*-test were carried out using SPSS 22. The results presented in the Table 1 revealed that there was a significant negative (r = -.107, $p < .05$) association between anxiety and emotional intelligence. Table 2 indicated that boys had lower mean anxiety scores (M = 33.32) compared to girls (M = 46.39), with a significant difference (t = -6.393, $p < .05$). The results also indicated that boys exhibited significantly higher mean emotional intelligence scores (M = 126.07) compared to girls (M = 122.10), with a significant difference (t = 3.673, $p < .05$).

Table 1

Relationship between Anxiety and Emotional Intelligence of Adolescents

Variables	Anxiety	Emotional Intelligence
Anxiety	1	
Emotional Intelligence	-.107	1

Table 2

Mean Difference in Anxiety and Emotional Intelligence of Adolescents Regarding Gender

Variables	Group	*M*	*SD*	*t*	*p*
Anxiety	Boys	33.32	16.86	-6.393	.001
	Girls	46.39	18.41		
Emotional Intelligence	Boys	126.07	8.26	3.673	.001
	Girls	122.10	10.30		

Note. M = Mean; SD = Standard Deviation.

Table 3 indicated that adolescents living in nuclear families exhibited significantly lower levels of anxiety (M = 34.98) compared to their counterparts in joint families (M = 42.31) (t = -3.230, $p < .05$). The results showed that adolescents living in nuclear families exhibited significantly higher levels of emotional intelligence (M = 126.68) compared to their counterparts in joint families (M = 122.78) (t = 3.396, $p < .05$).\

Table 4 revealed that urban adolescents exhibited lower levels of anxiety (M = 33.49) compared to those in rural settings (M = 46.66) (t = -6.444, $p < .05$). The results also demonstrated higher levels of emotional intelligence among urban adolescents (M = 125.65) compared to their rural counterparts (M = 122.42) (t = 2.964, $p < .05$).

Table 3

Mean Difference in Anxiety and Emotional Intelligence of Adolescents in terms of Family Type

Variables	Group	*M*	*SD*	*t*	*p*
Anxiety	Nuclear family	34.98	16.84	-3.230	.001
	Joint family	42.31	19.29		
Emotional intelligence	Nuclear family	126.68	8.55	3.396	.001
	Joint family	122.78	9.75		

Note. M = Mean; *SD* = Standard Deviation.

Table 4

Mean Difference in Anxiety and Emotional Intelligence of Adolescents in Respect of Living Place

Variables	Group	*M*	*SD*	*t*	*P*
Anxiety	Urban	33.49	16.65	-6.444	.001
	Rural	46.66	18.63		
Emotional intelligence	Urban	125.65	8.55	2.964	.003
	Rural	122.42	10.25		

Note. M = Mean; *SD* = Standard Deviation.

Discussion

The purpose of the current study was to assess the anxiety and emotional intelligence of adolescents in Bangladesh. The first objective was to find the relationship between anxiety and emotional intelligence. Table 1 showed that there was a negative correlation between anxiety and emotional intelligence in adolescents. This finding aligns with a growing body of research indicating that those with higher emotional intelligence tend to have lower levels of anxiety (Mikolajczak et al., 2020; Shields & Wheatley, 2018). According to the cognitive-emotional regulation model, individuals with higher emotional intelligence (EI) use adaptive strategies to control their feelings. This helps them handle stressful situations better, which reduces their anxiety (Gross & Thompson, 2007). The second objective was to find out if there is any notable difference in the anxiety and emotional intelligence of adolescent boys and girls. Table 2 showed that adolescent girls expressed more anxiety than boys. This is consistent with earlier studies that girls often had higher anxiety than boys (Hankin & Abela, 2011; Kessler et al., 2010). Findings also revealed that boys expressed more emotional intelligence than girls. A study by Mayer et al. (2003), which examined emotional intelligence in a diverse sample of adolescents, boys consistently demonstrated greater emotional intelligence across various domains such as emotion recognition, understanding, and regulation.

The third objective was to find out if adolescents from nuclear families and those from joint families had significantly different overall anxiety and emotional intelligence. When

compared to their peers in joint families, adolescents living in nuclear families showed considerably lower anxiety, according to the results shown in Table 3. These findings are consistent with other research that suggests nuclear families' smaller, cozier environments may promote more interpersonal security and comfort, which in turn may lessen anxiety (Kim et al., 2020). On the other hand, joint families' larger and more intricate dynamics may require more social negotiation and adaptation, which could raise anxiety (Yousef et al., 2016). According to Table 3 data, adolescent in nuclear homes had higher emotional intelligence than those in combined families. Studies have indicated that through customized attention and emotional communication, nuclear families may offer more concentrated chances for the development of emotional awareness and regulation skills (Zastrow & Slife, 2010). The fourth objective was to determine whether adolescents in urban and rural areas differed significantly in their anxiety and emotional intelligence. Table 4 expressed that adolescent in urban environments showed lower levels of anxiety than adolescents in rural settings. This is consistent with earlier studies showing that young people in rural areas have greater rates of social anxiety (Green et al., 2011). On the other hand, the EI results of Table 4 showed that urban adolescent had higher levels than their rural counterparts. This result is consistent with other research that suggested enhanced EI may result from a variety of social interactions in metropolitan settings, as well as increased exposure to cultural and educational resources (Shonkoff & Hart, 2012).

The study has some limitations. Firstly, sample size was small, limiting the generalizability of the findings. Secondly, selecting participants from only government schools, only focused on one district, Gopalganj. Thirdly, this study identifies correlations but cannot show cause-and-effect relationships. Gender-specific therapies and support programs are necessary, as girls demonstrated higher anxiety and worse emotional intelligence scores compared to males. Lower levels of anxiety, especially anxiety related to social interactions, were linked to nuclear families, which may indicate the advantages of social support in smaller family settings. Compared to their rural counterparts, urban adolescents showed lower levels of anxiety and higher levels of emotional intelligence. These differences have led to a closer examination of the possible environmental and socioeconomic causes these differences. To gain a deeper knowledge of the intricate relationship between anxiety, emotional intelligence, and various sociodemographic characteristics in Bangladeshi adolescents, larger, longitudinal research with more diverse samples and multidimensional data collection methods are necessary. The results of the study can be used to guide the creation of focused treatments meant to raise emotional intelligence and lower anxiety levels in particular subgroups of Bangladeshi teenagers, like girls, young people living in rural areas, and those with mixed families.

References

Ahmed, H. U., Hasan, M. Z., Ahmed, S., Nahar, J. S., & Hossain, M. A. (2020). Socioeconomic determinants of emotional intelligence among adolescents in rural Bangladesh. *Journal of Community Psychology*, *48*(4), 1000–1012.

Ahmed, M. S., Basher, A., & Hossain, M. T. (2018). Prevalence of anxiety among rural adolescents in Bangladesh: The role of environmental stressors and mental health services accessibility. *Journal of Rural Mental Health*, *42*(2), 145–158.

Ahmed, S., Akhter, R., & Uddin, M. N. (2018). Emotional intelligence and anxiety among university students in Dhaka, Bangladesh. *Journal of Mental Health Education*, *13*(2), 106–119.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (DSM-5)*. APA.

Bhuiyan, M. E., Alam, H. N., Rahim, H. A., & Shah, A. P. (2016). Mental health care in Bangladesh: Challenges and prospects. *East Asian Journal of Psychiatry*, *27*(2), 71–75.

Brackett, M. A., & Rivers, S. E. (2006). Emotional intelligence: A key driver of success. In J. Ciarrochi, J. P. Forgas, & J. D. Mayer (Eds.), *Emotional intelligence in everyday life: A scientific inquiry*. Psychology Press.

Cejudo, J., Rodrigo-Ruiz, D., López-Delgado, M. L., & Losada, L. (2013). Emotional intelligence and its relationship with levels of stress and anxiety in adolescents. *International Journal of Developmental and Educational Psychology*, *1*(2), 497–504.

Chowdhury, A., & Begum, F. (2019). Societal influences on emotional intelligence development in adolescents: A focus on collectivism and emotional suppression. *Journal of Adolescent Psychology*, *45*(2), 217–230.

Chowdhury, M. T. I., & Begum, M. (2019). Cultural influences on emotional intelligence development in Bangladeshi teenagers. *Journal of Cross-Cultural Psychology*, *50*(7), 837–851.

Chowdhury, M. T. I., & Siddique, A. (2017). Emotional intelligence and mental health among university students in Bangladesh. *The European Journal of Social & Behavioural Sciences*, *20*(2), 2561–2570.

Ciarrochi, J., Chan, A. Y. C., & Caputi, P. (2005). A critical evaluation of the emotional intelligence construct. *Personality and Individual Differences*, *39*(3), 569–581.

Deeba, F., & Begumn, R. (2004). Development of anxiety scale for Bangladeshi population. *Bangladesh Psychological studies*, *14*, 39–54.

Eggert, L. L., Pine, D. S., & Zinbarg, R. E. (2016). Adolescent anxiety disorders. *Lancet*, *387*(10030), 1965–1976.

Fernandez-Berrocal, P., Alcaide, R., Extremera, N., & Pizarro, D. (2012). The role of emotional intelligence in anxiety and depression among adolescents. *Individual Differences Research*, *10*(1), 29–40.

Garcia-Lopez, L. J., Serrano, C., & Tejada-Gallardo, C. (2019). Deficiencies in emotional intelligence skills as predictors of anxiety in adolescents. *Journal of Youth and Adolescence*, *48*(7), 1398–1410.

Green, J. D., Myerson, J., & Ostrow, A. C. (2011). Exploring the links between interpersonal trust and adolescent social anxiety. *Journal of Social and Clinical Psychology*, *30*(4), 479–495.

Gross, J. J., & Thompson, R. A. (2007). Emotion regulation: Conceptual foundations. In J. J. Gross (Ed.), *Handbook of emotion regulation*. Guilford Press.

Hankin, B. L., & Abela, J. R. Z. (2011). *Development of psychopathology: A vulnerability-stress perspective*. Sage Publications

Haque, A., Ferdousi, J., & Islam, N. (2015). Emotional intelligence and its relationship with academic achievement among university students in Bangladesh. *International Journal of Research Studies in Psychology*, *4(*1), 17–28.

Hasan, M. T., Hossain, S., & Mohsin, F. (2019). Family structure and adolescent anxiety in Bangladesh: A comparative study between nuclear and joint families. *Journal of Adolescence*, *76*, 123–130.

Hossain, M. M., Islam, M. R., & Khan, M. A. (2021). Emotional intelligence and mental health among adolescents in rural areas of Bangladesh. *Journal of Child and Adolescent Mental Health*, *33*(1), 51–63.

Hossain, M. Z., & Uddin, M. A. (2008). Psychometric properties of the Bengal version of the emotional intelligence scale. *Journal of Psychological Research*, *51*(2), 181–190.

Hyde, J. S., & Frost, L. A. (2003). Gender role flexibility and physical aggression in children: A longitudinal analysis. *Developmental Psychology*, *39*(2), 274–289.

Islam, M. R., Rahman, M. A., & Ahmed, I. (2019). Anxiety symptoms and associated factors among urban adolescents in Bangladesh. *Journal of Mental Health and Clinical Psychology*, *3*(2), 76–85.

Islam, M. S., & Hossain, M. S. (2020). Emotional intelligence and academic performance among university students: The mediating role of self-esteem. *Journal of Student Affairs*, *8*(1), 83–91.

Kabir, M. H., Arafat, S. M. Y., Hossain, M. N., & Kabir, R. (2018). Emotional intelligence as a predictor of academic performance among rural adolescents in Bangladesh. *International Journal of Adolescence and Youth*, *23*(3), 345–356.

Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2010). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the national comorbidity survey replication. *Archives of General Psychiatry*, *62(*6), 593–602.

Khan, M. R., Hossain, M. M., & Jahan, A. (2020). Emotional intelligence and socio-demographic factors among college students in Bangladesh. *Dhaka University Journal of Psychology*, *44*(1), 65–79.

Kim, J. H., Lee, Y., & Kim, Y. K. (2020). Family structure and its impact on social anxiety among adolescents. *Journal of Family Psychology*, *34*(3), 321–329.

LeBeau, R. T., Barnowski, C. C., & LeGrand, S. E. (2019). Longitudinal associations between adolescent anxiety and depression and future social functioning and loneliness. *Journal of Abnormal Psychology*, *128*(2), 147–158.

Martins, A., Ramalho, N., & Morin, E. (2020). A comprehensive meta-analysis of the relationship between emotional intelligence and health. *Personality and Individual Differences*, *156*, 109760.

Mayer, J. D., Salovey, P., & Caruso, D. R. (2000). Models of emotional intelligence. In R. J. Sternberg (Ed.), *Handbook of intelligence*. Cambridge University Press.

Mayer, J. D., Salovey, P., & Caruso, D. R. (2003). Emotional intelligence: Theory, findings, and implications. *Psychological Inquiry*, *15*(3), 197–215.

Mikolajczak, M., Roy, E., Luminet, O., Fillée, C., & de Timary, P. (2007). The moderating impact of emotional intelligence on free cortisol responses to stress. *Psychoneuroendocrinology*, *32*(8–10), 1000–1012.

Rahman, A., Bhuiyan, A. K., Ahmed, S., & Alam, W. S. (2018). Risk factors for suicidal ideation among adolescents in Dhaka, Bangladesh. *Bangladesh Journal of Medical Research*, *33*(1), 19.

Rahman, M. A., Hossain, M. M., Rahman, M. A., & Khan, A. K. (2017). Emotional intelligence and academic performance among Bangladeshi undergraduate business students. *Dhaka University Journal of Business Studies*, *38*(2), 133–150.

Sakurai, S., Igarashi, T., & Suzuki, K. (2022). The impact of self-awareness on anxiety symptoms in teenagers: A longitudinal study. *Journal of Research on Adolescence*, *32*(1), 97–211.

Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition and Personality*, *9(*3), 185–211.

Sanz, J., Perdigón, A. L., & Vázquez, C. (2016). The Spanish version of the depression anxiety stress scale-21 (DASS-21): Factor structure, reliability, and validity in Spanish university students. *Frontiers in Psychology*, *7*, 874.

Shields, G. S., & Wheatley, T. (2018). Toward a science of social emotion. In The *Oxford Handbook of Social Cognition*. Oxford University Press.

Shonkoff, J. P., & Hart, B. (2012). *Facing the challenges of early adversity: Commentary by the Office of Early Child Development*. American Academy of Pediatrics.

Steinberg, L. (2005). Cognitive and affective development in adolescence. *Trends in Cognitive Sciences*, *9*(2), 69–74.

Tejada-Gallardo, C., Serrano, C., & Garcia-Lopez, L. J. (2022). The role of emotion management in coping with anxiety: A study on adolescents. *Journal of Adolescent Health*, *56*(4), S34–S40.

World Health Organization. (2019). Mental health. https://www.who.int/health-topics/mental-health

Yousef, H. M., Ghabban, M., & Daher-Nashif, S. (2016). Family structure and adolescents' anxiety levels: The role of social negotiation and adaptation. *Journal of Child and Family Studies*, *25*(4), 1213–1223.

Zastrow, C., & Slife, B. D. (2010). *Human behavior and the social environment: Shifting paradigms in essential knowledge for social work practice* (5th ed.). Cengage Learning.

Zychowska, M., Jaworowska, A., & Luszczynska, A. (2020). The role of emotional intelligence in the relationship between stress and mental health among adolescents: A systematic review. *Personality and Individual Differences*, *163*, 110077.

Jagannath University Journal of Psychology, Vol. 12, 61-60, 2023 ISSN 2225-443৭

Research Article

Effects of Socio-demographic Variables on Perceived Stress among Older Adults

Md. Abdul Hannan Mondal [1] and Md. Nur-E-Alam Siddique[2]

Received date: March, 2024
Revised date: May, 2024
Accepted date: June, 2024

Abstract

Elderly people are more susceptible to the adverse consequences of stress. Despite the abundance of research on senior citizens in various cultural contexts, there is a dearth of research on elderly people in Bangladesh. Therefore, the primary goal of the research was to investigate the impact of socio-demographic factors on the perceived stress of elderly individuals. This is a cross-sectional study, with the elderly being the population. The study population consists of old people in the Rajshahi division of Bangladesh. A purposive sampling procedure was applied to select 414 elderly people whose ages ranged from 60 to 87 years, with a mean age of 67.64 ± 5.109 years, with male 55.31% and female 44.69% as the total number of samples. The findings of the *t*-test indicated that male older adults felt more perceived stress than female older adults ($t = 15.66$, $p < .001$), and people in urban areas felt less perceived stress than those in rural areas ($t = 5.024$, $p < .001$). Older adults with comorbidity experienced more perceived stress than older adults without comorbidity ($t = 5.732$, $p < .001$), and older people who had partners experienced less perceived stress than older people who did not have partners ($t = 4.94$, $p < .001$). The correlation among variables indicates that there was a significant relationship between all four independent variables and the perceived stress level of older adults. Regression analysis showed that gender predicted 37.3% of variances of perceived stress ($\beta = 0.61$, $R^2 = .373$, $p < .001$), and residence predicted 5.8% of variances of perceived stress ($\beta = -0.24$, $R^2 = .058$, $p < .001$). The older adults' health status predicted 7.4% variances of perceived stress ($\beta = -0.27$, $R^2 = .074$, $p < .001$), and the status of their partner predicted 5.6% variances of perceived stress ($\beta = -0.23$, $R^2 = 0.056$, $p < .001$). The present study suggests that psychosocial factors such as gender, living area, health status, and spouse status have significantly influenced elderly people's perceived stress.

Keywords: perceived stress, gender, living area, health status, elderly people

[1]Department of Clinical Psychology, University of Rajshahi, Bangladesh
[2]Department of Psychology, University of Rajshahi, Bangladesh
Corresponding concerning this article should be addressed to Md. Nur-E-Alam Siddique, Department of Psychology, University of Rajshahi. Email: nur_psy2011@ru.ac.bd

Introduction

Stress is an activator that leads to psychological strain or a physical response due to particular traumatic experiences or stressors (Domar, 2017). Everybody encounters stress. Although stress is not a psychiatric disorder, it is strongly associated with mental health issues, as evidenced by many studies. Depressive disorder (Nash, 2023) and psychotic conditions such as cognitive deficits and affective manifestations (Bob et al., 2022) are associated with stress. Moreover, network analysis has shown intricate relationships between PTSD symptoms, anxiety, and psychotic symptoms; these findings imply anxiety symptoms play a significant role in contributing to psychotic episodes (Wright et al., 2023). Stress is an important mental health issue that affects a significant percentage (10–15%) of older people worldwide (WHO, 2023b; Babazadeh et al., 2016). We anticipate a doubling of the proportion of elderly people experiencing stress and anxiety in the next ten years (Nagarajan et al., 2016). In recent times, several countries have seen major shifts in age percentages, with the group aged 60 and up continuously increasing in proportion (Nagarajan et al., 2016).

The BBS indicates that 8% of people are 60 years of age or older, and they expect this number to rise to 11.5% by 2030 (BBS, 2019; BBS, 2015). Even though the precise origin of most mental diseases remains incompletely understood, an interplay of psychological, physiological, and external variables is believed to play a significant role (Modinos et al., 2013). Daily responsibilities and reputational concerns negatively correlate with perceived stress (Teshome et al., 2021). Research done in Tehran, Iran, revealed that older people reported higher levels of perceived stress (Bastani & Haghani, 2022). Based on a study completed in Kolkata, India, a considerable percentage of elderly people experienced perceived stress at moderate to low levels (Manna et al., 2023). Furthermore, a study looking at the association between cognitive performance and perceived stress found that perceived stress was associated with lower cognitive function across a number of categories (Aktar et al., 2022). These results emphasize how crucial it is to address and manage elderly people's perceived stress in order to support their overall wellness.

Several studies have found that there are gender differences in the perceived stress levels of older adults. A study's survey revealed that women consistently reported higher levels of perceived stress compared to men (Paolillo et al., 2023; Moore & Henneghan, 2023; Commodari & Nuovo, 2019). Older adults' perceived stress levels differ based on where they live. In comparison to elderly people who live in urban regions, those who live in rural locations experience higher stress (Commodari & Nuovo, 2019). We divide the health status of the participants in the current study into two types. One is "without comorbidity," which means older adults who do not have any physical problems like diabetes, heart disease, high blood pressure, or any other acute conditions; the other is "with comorbidity," which means elderly people suffer from single or multiple physical conditions. Studies have suggested that the comorbidity of elderly people predicts perceived stress and comorbidity increases older people's perceived stress (Chao et al., 2020). Some research findings showed older adults with ailments showed higher perceived stress than the absence of ailments (Chao et al., 2020; Zhang et al., 2014; Scott et al., 2011). Elderly people without spouses reported more perceived stress than elderly people who have spouses (Mani et al., 2014; Prakash & Kumar, 2019).

The study gathered the sample from Rajshahi and Joypurhat districts, home to approximately 4 million individuals, representing nearly 2% of Bangladesh's total population (BBS, 2022). Previous studies have revealed numerous stressful situations, including elderly abuse, that elderly people in Bangladesh face, and this research was particularly focused on the Rajshahi district (Tareque et al., 2015). So, the present study focused on elderly people in a specific region. Researchers need to learn more about how older people feel stressed because it has a major impact on their general state of health and wellness. In general, studies investigating the perceived stress of older people offer valuable perspectives into the multifaceted effects of stress on their welfare and emphasize the necessity for actions that are helpful for stress management and the promotion of longevity.

Aims of the Current Study

1. To find out the correlation between predicted variables and perceived stress.
2. To investigate the effects of predicted variables on perceived stress.
3. To investigate how much variability in perceived stress is predicted by each independent variable.

Method

Participants

This is a cross-sectional study. The elderly people of Bangladesh are the population of this study, and the study sample is 414 older adults from Joypurhat and Rajshahi districts in Bangladesh, using a purposive sampling procedure. The ages of the participants were ranged from 60 to 87 years, with a mean age of 67.64 ± 5.109 years, with males 55.31% and females 44.69%.

Measures

Perceived Stress Scale (PSS-10)

A Bangla-adapted perceived stress scale (Islam, 2013). Cohen (1988) originally developed this scale (PSS-10) to measure perceived stress. The Bangla version of this scale has good psychometric properties (Mozumder, 2022). This version of the scale was used frequently in Bangladesh (Mondal & Khatun, 2023; Khatun et al., 2023). This scale consists of ten statements and each statement has four options to answer, from 4 = very often to 0 = never. The scale scores four items positively and six items negatively. We add all responses to the perceived stress score, resulting in a total score ranging from 0 to 40. Score of 27–40 indicates high stress, a score of 14–26 indicates moderate stress, and a score of 0–13 suggests a low stress level, where a lower score on this scale suggests lower perceived stress and a higher score suggests higher perceived stress.

Procedure

Researchers obtained the data directly from the elderly people in two districts in Rajshahi Division, Bangladesh. Participants in the study must be over 60 years old. To collect data, the researchers train some undergraduate students. After completing their training, the researchers dispatched the students to various locations across two districts of Rajshahi Division. They go door-to-door to collect the data. They confirmed the participants' ages, clarified the study's objective, and obtained informed consent either in writing or verbally. We gave elderly people who can read the questionnaire the opportunity to rate each statement. However, a significant

number of older individuals suffer from visual impairments and severe physical ailments, making it difficult for them to comprehend the questionnaire. To overcome this condition, the data collector read the questionnaire and verbally asked for ratings for each statement. Finally, the participants who are not communicable by any means, either by reading the questionnaire or verbally rating their responses, are not considered a sample of this study. It takes an average of 15 minutes for each respondent to give the information.

Statistical Analyses

Descriptive statistics concisely describe all variables included in this study. Researchers investigated the significant difference in the level of each predicted variable. An independent sample *t*-test was used. Point bi-serial correlation analysis was also applied to see the associations among variables. Univariate regression analysis was used to find out the significant predictors of perceived stress among elderly people. We conducted all statistical analyses using SPSS (version 29).

Results

Table 1 showed a total of 414 participants, including 55.31% males and 44.69% females, 63.29% from rural areas, and 36.71% from urban areas. 67.87% have comorbidity, and the rest (32.13%) were without comorbidity. 68.12% of participants had a spouse, and 31.88% of participants did not have a spouse.

Table 1

Descriptive Statistics of the Variables

Predictor	Level of predictor	*N*	Percentage (%)
Gender	Male	229	55.31
	Female	185	44.69
Living area	Rural	262	63.29
	Urban	152	36.71
	With comorbidity	281	67.87
Health status	Without comorbidity	133	32.13
Status of partner	With spouse	282	68.12
	Without spouse	132	31.88

Table 2 showed the *t*-test was statistically significant, with the mean perceived stress score of males (*Mean* =15.14, *SD* = 2.89) being significantly lower than that of females (*Mean* = 19.42, *SD* = 2.61, *t* (412) =15.66, $p < .001$). The result further revealed that the perceived stress levels of participants in rural areas were significantly higher than their urban counterparts ($t = 5.024$, $p < .01$). Elderly participants with comorbidity felt higher perceived stress levels than those without comorbidity ($t = 5.732$, $p < .01$). Elderly participants without spouses felt more perceived stress levels than those with spouses, which suggests a significant mean difference ($t = 4.94$, $p < .01$). The value of the different levels of the predicted variable in terms of the perceived stress score is presented in Figure 1.

Table 2

Results of the t-tests for All Variables

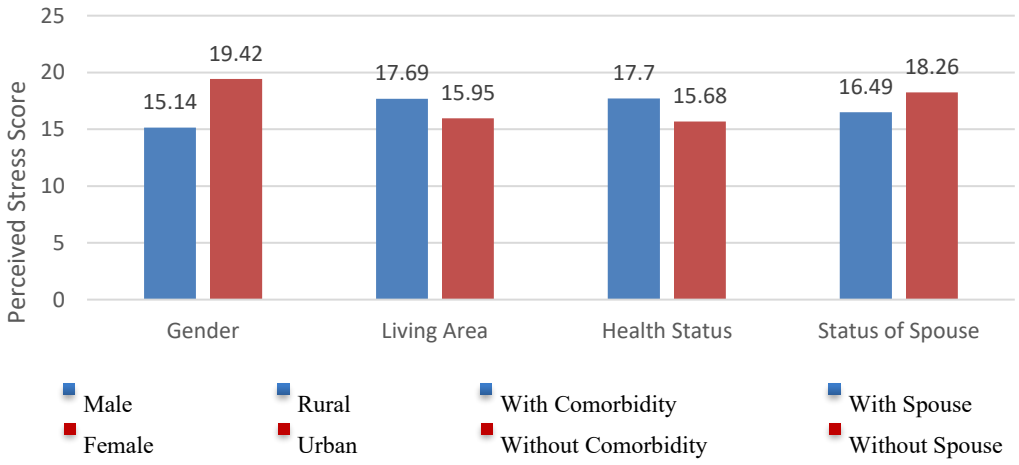
DV	IV	IV levels	*N*	*Mean*	*SD*	*df*	*t*
Perceived Stress	Gender	Male	229	15.14	2.89	412	15.66***
		Female	185	19.42	2.61		
	Living area	Rural	262	17.69	3.52	412	5.024***
		Urban	152	15.95	3.16		
	Health status	With comorbidity	281	17.70	3.37	412	5.732***
		Without comorbidity	133	15.68	3.34		
	Status of partner	With spouse	282	16.49	3.14	412	4.94***
		Without spouse	132	18.26	3.88		

Note. ***$p < .001$.

DV = Dependent variable, IV = Independent variable, N = Frequency of participant, SD = Standard deviation, *df* = Degree of freedom, *t* = t statistics

Figure 1

Perceived Stress across Different Variables



The correlational table showed that gender (r = .611, p < .01) and status of spouse (r =.236, p < .01) were positively correlated with perceived stress. On the contrary, perceived stress negatively correlated with living area (r = -.240, p < .01) and comorbidity (r = -.272, p < .01).

Table 3

Correlation between Demographic Variables and Perceived Stress

Variable 1	Coefficient
Gender	.611**
Living area	-.240**
Health status	-.272**
Status of spouse	.236**

Note. **$p < .01$.

The independent variable gender significantly predicted 37.3% of variances in the perceived stress of elderly people (β = 0.61, *SE*= -4.282, R^2 = 0.373, 95% *CI* = [-4.819, -3.745]). Table 4 also suggested that the living area of the elderly predicted 5.8% of perceived stress (β = -0.24, *SE*= -1.737, R^2 = 0.058, 95% *CI* = [1.057, 2.416]). The health status of elderly people predicted 7.4% of variances in perceived stress. The result was also significant (β = -0.27, *SE*= 2.028, R^2 = 0.074, 95% *CI* [1.332, 2.723]). Finally, the status of the partner predicted a 5.6% variance in the perceived stress of elderly persons (β = -0.23, SE= -1.768, R^2 = 0.056, 95% *CI* [-2.472, -1.065]). Figure 2 showed that gender, living area, health area, and status of partner significantly predicted 37.3%, 5.8%, 7.4%, and 5.6%, respectively. The standardized coefficients of gender, residence, comorbidity, and status of partner were 0.611, -0.240, -0.272, and 0.236, respectively. So, the standardized coefficient indicates gender predicted more than the other three variables.

Table 4

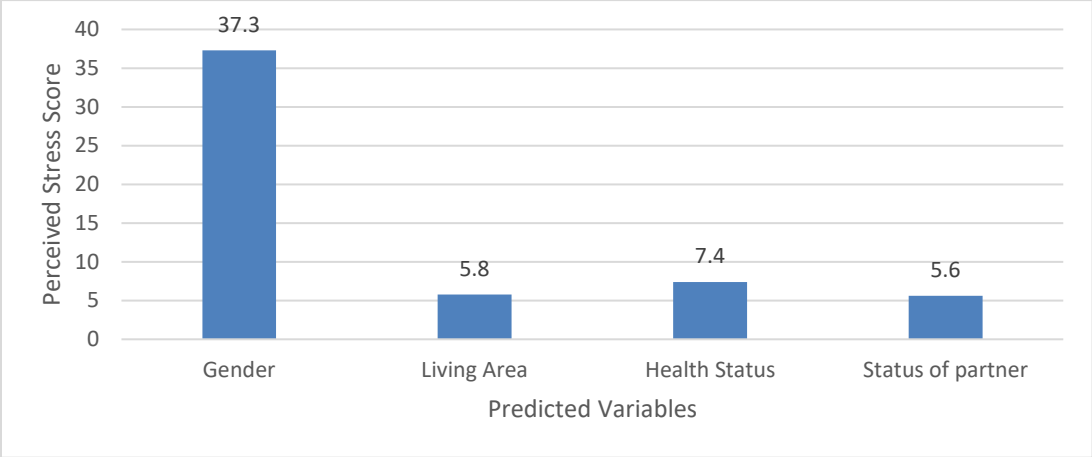
Univariate Regression Analysis for four Predictors Linked to Perceived Stress

Variable	R-squared Value (R^2)	Standardized Coefficients (β)	Standard Error (*SE*)	*t*	95% CI	
					Lower Bound	Upper Bound
Gender	0.373	0.61	-4.282	-15.663**	-4.819	-3.745
Living area	0.058	-0.24	1.737	5.024**	1.057	2.416
Health status	0.074	-0.27	2.028	5.732**	1.332	2.723
Status of partner	0.056	-0.23	-1.768	-4.940**	-2.472	-1.065

Note. **$p < 0.001$.

Figure 2

Predicted Value of Four Predictors of Perceived Stress



Discussion

We used purposive sampling to measure the perceived stress of 414 elderly people using a Bengali-translated version of the PSS-10. We observed the impact of factors such as gender, living area, comorbidity, and partner status on the perceived stress. We used descriptive statistics, correlation coefficients, independent sample t-tests, and regression analysis.

The results revealed that gender significantly predicted 37.3% of elderly people's perceived stress, and elderly females showed higher perceived stress than elderly males ($t = 15.66$, $p<0.01$). Females are more likely to indicate greater degrees of stress than males (Kavery & Manikandan, 2022; Commodari & Nuovo, 2019). Women also exhibit a higher prevalence of emotional distress, strongly linked to perceived stress (Wettstein et al., 2021). Men place greater value on rational coping and self-esteem, whereas women place greater value on emotional coping and severe stress (Matud & García, 2019). Both genders experience significant effects of perceived stress on their social activities, with higher emotional distress levels associated with a decrease in social activities (Charles & Kumar, 2020). So, gender has an effect on the degree of perceived stress among elderly people.

The variable living area explained 5.8% of the perceived stress of elderly people. Rural elderly people feel more perceived stress than urban elderly persons ($t = 4.514$, $p< 0.01$). Living areas (rural and urban) affect older adults, and the aging process introduces seniors to various kinds of stressful situations (Commodari & Nuovo, 2019). Compared to urban older people, rural older adults have a lower index of social status and mental wellness (Kirk & Alessi, 2002). Decreased social functioning ratings in rural regions imply that older people there might feel lonelier than their counterparts in urban areas (Baernholdt et al., 2012). Research specifically demonstrates that older individuals residing in rural areas typically exhibit elevated stress levels compared to those residing in urban areas (Matsumoto et al., 2022). This research suggests that

the environment in which older people live may influence their stress levels (Matsumoto et al., 2022).

The partner's status predicted 5.6% of older people's perceived stress. In older people, the death of a partner may significantly boost their reported stress level (Prakash & Kumar, 2019). Older persons who are currently experiencing the loss of a partner tend to experience greater levels of harmful effects, isolation, and a lower sense of fulfillment and significance in life. For older adults, spouse deaths can have a variety of health consequences, including psychological issues, social interactions, behavioral aspects, and physical problems (Das, 2013). The study revealed that older people who live in old age homes had significant degrees of perceived stress, emphasizing the significance of regular social and familial assistance in improving their mental and physical well-being (Fernandes-Pires et al., 2023).

Elderly people's health status predicted 7.4% of perceived stress. Poor mental and physical health significantly correlated with higher perceived stress in senior people over 65 (Mohammadi & Bastani, 2019). Santos et al. (2015) linked higher perceived stress to lower functional autonomy and depression symptoms in stroke survivors. Such findings point out that comorbidity is capable of changing older people’s perceived stress, which is consistent with this study's result.

Conclusion

The four predictors (gender, health status, living area, and status of partner) can significantly change the perceived stress of elderly people. These four variables significantly contribute to the well-being of older people. Therefore, the government should allocate more resources towards reducing the impact of perceived stress and enhancing the overall health of elderly individuals. This study can motivate researchers to investigate the influential factors relating to the perceived stress of older adults at a national level.

Limitations of the Study

We list some of this study's limitations here. First, the study's cross-sectional nature precludes the establishment of a cause-and-effect relationship. Secondly, here we consider only four factors to predict the perceived stress of elderly people, but numerous factors may influence the perceived stress of elderly people. Thirdly, we selected the participants from the Rajshahi division, which may question the generalization of the results. Finally, we used the purposive sampling technique for sample selection, which may be susceptible to sampling bias.

Directions for Future Study

Despite this research's focus on the four factors, numerous other internal and external factors could potentially influence the elderly's perceived stress. So, other personal and environmental factors should be considered for further studies. This study is cross-sectional in nature, so a longitudinal study may be preferable for future studies. To accurately generalize the result, consider the participants from all areas of the country, and random sampling techniques may be considered to reduce researcher bias and selection bias.

References

Akhtar, S., Verma, S., Singh, N., Manhas, M., & Gupta, M. (2022). Stress perception among the elderly and its effect on some muscle strength parameters. *National Journal of Physiology, Pharmacy and Pharmacology*, *0*, 1. https://doi.org/10.5455/njppp.2023.13.11517202219122022

Babazadeh, T., Sarkhoshi, R., Bahadori, F., Moradi, F., Shariat, F., & Sherizadeh, Y. (2016). Prevalence of depression, anxiety and stress disorders in elderly people residing in Khoy, Iran (2014-2015). *Journal of Analytical Research in Clinical Medicine*, *4*(2), 122–128. https://doi.org/10.15171/jarcm.2016.020

Baernholdt, M., Hinton, I., Yan, G., Rose, K., & Mattos, M. (2012). Factors associated with quality of life in older adults in the United States. *Quality of Life Research*, *21*(3), 527–534. https://doi.org/10.1007/s11136-011-9954-z

Bangladesh Bureau of Statistics (2015). *Population projection of Bangladesh- Dynamics and Trends 2011–2061.* Dhaka, Bangladesh: Bangladesh Bureau of Statistics, Ministry of Planning, Government of The People's Republic of Bangladesh.

Bangladesh Bureau of Statistics (2019). *Report on the Households Income and Expenditure Survey 2016*. Dhaka, Bangladesh.

Bangladesh Bureau of Statistics (2022). *Population and Housing Census 2022.* Preliminary Report.

Bastani, F., & Haghani, H. (2022). Perceived stress and fear of COVID-19 among the elderly referred to comprehensive health centers in Tehran, Iran. *The Iran Journal of Nursing*, *35*(136), 134–149. https://doi.org/10.32598/ijn.35.2.256.16

Bob, P., Touskova, T., Pec, O., Raboch, J., Nashaat, N., Boutros., Paul, H., & Lysaker. (2022). Psychosocial stress, Epileptic-Like symptoms and psychotic experiences. *Frontiers in Psychology*, 13. https://doi.org/10.3389/fpsyg.2022.804628

Chao, Y. Y., Zha, P., Yang, K., & Dong, X. (2020). Association between physical function and perceived stress among U.S. Chinese older adults. *American Journal of Aging Science and Research*, *1*(1), 12–19. https://doi.org/10.46439/aging.1.004

Cohen, S. (1988). Perceived stress in a probability sample of the United States. In S. Spacapan & S. Oskamp (Eds.), *The Social Psychology of Health,* 31–67. Sage Publications, Inc.

Commodari, E., & Nuovo, S. D. (2019). Perception of stress in aging: The role of environmental variables and appraisal of the life experiences on psychological stress. *Neurology, Psychiatry and Brain Research, 34,* 28–33. https://doi.org/10.1016/j.npbr.2019.09.001

Das A. (2013). Spousal loss and health in late life: Moving beyond emotional trauma. *Journal of Aging and Health*, *25*(2), 221–242. https://doi.org/10.1177/0898264312464498

Domar A. D. (2017). *Psychological stress and infertility*. In: Silver JM, Solomon D, editors. Waltham: UpToDate Inc; 2017.

Fernandes-Pires, J. A., Pedroso-Chaparro, M. D. S., Jiménez-Gonzalo, L., Márquez-González, M., Cabrera, I., & Losada-Baltar, A. (2023). Marital satisfaction and mental health in adults over 40 years old. Associations with self-perceptions of aging and stress related to the COVID-19 pandemic. *The Spanish Journal of Psychology*, *26*, e14. https://doi.org/10.1017/SJP.2023.13

Islam, M. Z. (2013). Translation of Bangla Perceived Stress Scale. *Perceived Stress Scale–Bengali Translation Document. http://www.psy.cmu.edu/~ scohen/Perceived_Stress_ Scale_Bengali_translation. pdf*.

Kavery, B. J., & Manikandan, K. (2022). Predictors of psychological distress among old aged. *Innovare Journal of Education*, *10*(3), 24–33. https://doi.org/10.22159/ijoe.2022v10i3.44730

Khatun, T., Yeasmin, A., & Mondal, A. H. (2023). Perceived stress among undergraduate students of Rajshahi University. *International Journal of Indian Psychology*, 11(4), 2955–2961. https://doi.org/10.25215/1104.279

Kirk, A. B., & Alessi, H. D. (2002). Rural senior service centers: A study of the impact on quality of life issues. *Activities, Adaptation, and Aging*, *26*, 51–64.

Charles, M. S., & Kumar, P. J. (2020). Perceived stress and wellbeing of the elderly during COVID-19 lock down period. *Purakala UGC CARE Journal*, 31, 27–33.

Mani, G., Udayakumar, S., Annamalai, K., & Ramasamy, D. J. (2014). Perceived levels of stress and its correlates among residents of old age home in Kanchipuram District, Tamil Nadu. *Medical Journal of Dr. DY Patil University*, *7*(6), 728–731. https://doi:10.4103/0975-2870.144860

Manna, N., Marak, M., Das, P., Das, S., & Das, D. (2023). A study on assessment of sleep pattern and perceived stress among geriatric patients in Medical College and Hospital, Kolkata. *National Journal of Physiology, Pharmacy and Pharmacology*, 0, 1. https://doi.org/10.5455/njppp.2023.13.11555202224112022

Matsumoto, K., Matsui, T., Suwa, H., & Yasumoto, K. (2022). Stress prediction using per-activity biometric data to improve QoL in the elderly. In: Aloulou, H., Abdulrazak, B., de Marassé-Enouf, A., Mokhtari, M. (eds) Participative Urban Health and Healthy Aging in the Age of AI. ICOST 2022. *Lecture Notes in Computer Science,* vol 13287. Springer, Cham. https://doi.org/10.1007/978-3-031-09593-1_15

Matud, M. P., & García, M. C. (2019). Psychological distress and social Functioning in elderly Spanish people: A Gender Analysis. *International Journal of Environmental Research and Public Health*, *16*(3), 341. https://doi.org/10.3390/ijerph16030341

Modinos, G., Iyegbe, C., Prata, D., Rivera, M., Kempton, M. J., Valmaggia, L. R., Sham, P. C., van Os, J., & McGuire, P. (2013). Molecular genetic gene-environment studies using candidate genes in schizophrenia: A systematic review. *Schizophrenia Research*, *150*(2-3), 356–365. https://doi.org/10.1016/j.schres.2013.09.010

Mohammadi, H., & Bastani, F. (2019). Perceived stress and the contributing factors in the elderly with urinary incontinence. *Iran Journal of Nursing*, 32(119), 38–47.

Mondal, M. A. H., & Khatun, T. (2023). Link of perceived stress and life satisfaction: A cross-sectional study of the public university student of Bangladesh. *Cross-Currents: An International Peer-Reviewed Journal on Humanities & Social Sciences,* 9(11), 247–255. https://doi.org/10.36344/ccijhss.2023.v09i11.003

Moore, R. C., & Henneghan, A. M. (2023). Examining individual differences in the within-person process of perceived stress and cognitive functioning to advance precision health: Commentary on Sex differences in the relationship between perceived stress and cognitive trajectories. *The American Journal of Geriatric Psychiatry: Official Journal of the American Association for Geriatric Psychiatry*, *31*(6), 411–414. https://doi.org/10.1016/j.jagp.2023.01.018

Mozumder, M. K. (2022). Reliability and validity of the Perceived Stress Scale in Bangladesh. *PloS One*, *17*(10), e0276837. https://doi.org/10.1371/journal.pone.0276837

Nagarajan, N. R., Teixeira, A. A., & Silva, S. T. (2016). The impact of an aging population on economic growth: An exploratory review of the main mechanisms. *Análise Social*, 4–35.

Nash. (2023). A perspective on stress and depression. 22–37. https://doi.org/10.1201/9781846197062-2

Paolillo, E. W., You, M., Gontrum, E., Saloner, R., Gaynor, L. S., Kramer, J. H., & Casaletto, K. B. (2023). Sex differences in the relationship between perceived stress and cognitive trajectories. *The American Journal of Geriatric Psychiatry: Official Journal of the American Association for Geriatric Psychiatry*, *31*(6), 401–410. https://doi.org/10.1016/j.jagp.2022.11.009

Prakash, S., & Kumar, S. (2019). Perceived stress and quality of life of elderly living separately from their adult children: A cross-sectional comparative study. *International Journal of Health Sciences and Research*, *9*(4), 7–13.

Santos, E. B., Rodrigues, R. A., Marques, S., & Pontes-Neto, O. M. (2015). Estresse percebido nos idosos sobreviventes do AVC após a alta hospitalar para casa [Perceived stress in elderly stroke survivors after hospital discharge to home]. *Revista da Escola de Enfermagem da U S P*, *49*(5), 797–803. https://doi.org/10.1590/S0080-623420150000500013

Scott, S. B., Jackson, B. R., & Bergeman, C. S. (2011). What contributes to perceived stress in later life? A recursive partitioning approach. *Psychology and Aging*, *26*(4), 830–843. https://doi.org/10.1037/a0023180

Teshome, A., Shegaze, M., Glagn, M., Getie, A., Tekabe, B., Getahun, D., Kanko, T., Getachew, T., Yenesew, N., Meskele, S., Tolosie, K., Temtem, Z., & Yirgu, T. (2021). Perceived stress and associated factors among health care professionals working in the context of COVID-19 pandemic in public health institutions of southern Ethiopia 2020. *PloS One*, *16*(6), e0252809.

Wettstein, M., Wahl, H. W., & Kornadt, A. E. (2021). Longitudinal associations between perceived stress and views on aging: Evidence for reciprocal relations. *Psychology and Aging*, *36*(6), 752–766. https://doi.org/10.1037/pag0000632

World Health Organization (2023b). Mental health of older adults. https://www.who.int/news-room/fact-sheets/detail/mental-health-of-older-adults

Wright, L. A., McElroy, E., Barawi, K., Neil, P., Roberts., Simon, N., Zammit, S., & Bisson, J. I., (2023). Associations among psychosis, mood, anxiety, and posttraumatic stress symptoms: A network analysis. *Journal of Traumatic Stress*, 36(2), 385–396. https://doi.org/10.1002/jts.22916

Zhang, M., A. Simon, M., & Dong, X. (2014). The prevalence of perceived stress among U.S. Chinese older adults. *AIMS Medical Science*, 1(1), 40–56. https://doi.org/10.3934/medsci.2014.1.40

Tareque, Md. I., Islam, T. M., Koshio, A., & Kawahara, K. (2015). Economic well-being and elder abuse in Rajshahi district of Bangladesh. *Research on Aging*, 37(2), 200–224. https://doi.org/10.1177/0164027514527833

Jagannath University Journal of Psychology (JnUJP)
Guide for Authors

Manuscripts submitted to ***JnUJP*** should neither be published previously nor be under consideration for publication in another journal. The main article types are as follows:

- Full theoretical and experimental manuscripts that will provide a substantial amount of new information.
- Short communications that present significant findings will also be considered.

Manuscript Preparation

Before submission, please carefully read and follow the 'Guide for Authors" that is given below. Manuscripts that do not conform to the submission guidelines may be returned without review.

The manuscript must be written in English typed in MS Word with double space, 12-pt Times New Roman, in A4, sheets leaving appropriate margins (left and top 3 cm, right and bottom 2 cm), and should be numbered beginning with the Title page. The Short Communication must include text, figures, and tables that must be within double-spaced 4 pages. The list of references should be as small as possible.

Two hard copies of the manuscript, and/or soft copies (in MS Word format) should be sent to the Editor-in-Chief (Professor Dr. Muhammad Akram Uzzaman, Chairman, Department of Psychology, Jagannath University, Dhaka-1100, Bangladesh. E-mail: dr.akram@psy.jnu.ac.bd).

Article Processing Charge:

- Submission fee: BDT 500
- Publication fee (upon acceptance): BDT 2000

General Considerations

Front Page Sections

The following sections should appear in all manuscripts:

- **Title:** The title of your manuscript should be concise, specific and relevant.
- **Author List and Affiliations:** Authors' full first and last names must be provided. The initials of any middle names can be added. The standard format is used for affiliations: complete address information including city, zip code, state/province, and country. At least one author should be designated as the corresponding author, and his or her email address and other details should be included at the end of the affiliation section.
- **Abstract:** The abstract should be a total of about 200 words maximum. The abstract should be a single paragraph and should follow the style of structured abstracts, but without headings: 1) Background: Place the question addressed in a broad context and highlight the purpose of the study; 2) Methods: Describe briefly the main methods or treatments applied. 3) Results: Summarize the article's main findings; and 4) Conclusion: Indicate the main conclusions or interpretations.
- **Keywords:** Three to six pertinent keywords need to be added after the abstract. We recommend that the keywords are specific to the article.

Research Manuscript Sections

- **Introduction:** The introduction should briefly place the study in a broad context and highlight why it is important. It should define the purpose of the work and its significance, including specific hypotheses being tested. The current state of the research field should be reviewed carefully and key publications cited. Finally, briefly mention the main aim of the work. Keep the introductions comprehensible and reader-friendly.
- **Methods:** It should be described with sufficient detail.
- **Results:** Provide a concise and precise description of the results and their interpretation.
- **Discussion:** Authors should discuss the results and how they can be interpreted in the perspective of previous studies and of the working hypotheses. The findings and their implications should be discussed in the broadest context possible and the limitations of the work highlighted. Future research directions may also be mentioned. This section may be combined with Results.
- **Conclusions:** This section is not mandatory, but can be added to the manuscript if the discussion is unusually long or complex.

Back page Sections

- **Supplementary Materials:** Describe any supplementary material alongside the manuscript (figures, tables, etc.). Please indicate the name and title of each element as follows Figure A1: title, Table A1: title, etc.
- **References:** All the references must be cited in the text. The Citation and the Reference list should be prepared as recommended by the American Psychological Association (APA) Manual (7^{th} edition).

Citation in text

Citing two authors: Wegener & Petty, 1994

Citing three or more authors: Kernis et al., 1993

References should be described as follows depending on the type of work:

Journal articles:

Soto, C. J., & John, O. P. (2017). The next big five inventory (BFI-2): Developing and assessing a hierarchical model with 15 facets to enhance bandwidth, fidelity, and predictive power. *Journal of Personality and Social Psychology*, *113*(1), 117-143. http://dx.doi.org/10.1037/pspp0000096

Book/Chapter:

Author, A. A. (Year of publication). *Title of work: Capital letter also for subtitle*. Publisher Name. DOI (if available)

Preparing Tables and Figures

Tables can be placed next to the relevant text in the article. Use Word's Insert Table function when you create tables. Number tables and figures consecutively following their appearance in the text and place any table/figure notes below the table/figure body.