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# MENTAL WELL-BEING AMONG STUDENTS WITH RESPECT TO GENDER, INSTITUTION AND RESIDENCE: INSIGHTS FROM PURULIA DISTRICT, WEST BENGAL

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## Abstract

This study aimed to explore the positive mental well-being among students in Purulia district, West Bengal, with a focus on gender, institution and residential disparities. Employing a descriptive survey approach, information was gathered from 513 participants through the Positive Mental Health scale (PMH). Both descriptive and inferential statistical techniques, including t-tests, were utilized for the analysis. The outcomes unveiled no noteworthy distinctions in positive mental well-being between male and female, students of teachers training institution and other students or between those residing in rural and urban areas within Purulia district. These findings highlight a consistent level of positive mental health across genders, institution and residential backgrounds, emphasizing the necessity for comprehensive mental health initiatives within educational environments.

**Keywords:** *Positive Mental Health, t-test, Purulia District, Residence, Gender, Institution*

## Introduction

Positive mental health refers to a state of emotional, psychological, and social well-being where individuals are able to cope with the normal stresses of life, work productively, and contribute to their communities. It encompasses resilience, optimism, self-esteem, and the ability to form and maintain healthy relationships. Positive mental health goes beyond the absence of mental illness; it emphasizes the presence of positive attributes and the capacity to flourish in various aspect of life. Cultivating positive mental health involves practices such as self-care, mindfulness, social support, and maintaining a balanced lifestyle. It is essential for overall well-being and plays a significant role in one's ability to navigate life's challenges with adaptability and resilience. In an era characterized by rapid technological advancement, bustling lifestyles, and constant connectivity, the significance of mental health has emerged as a prominent concern. As society evolves, the discourse surrounding mental health has transitioned from mere acknowledgement to an active pursuit of well-being and resilience. This paradigm shift has paved the way for the exploration and promotion of positive mental health a holistic approach that goes beyond the absence of illness to encompass the cultivation of psychological flourishing and resilience. In

this introductory exploration, we delve into the essence of positive mental health, its components, significance, and practical strategies for nurturing well-being in contemporary landscape. In fostering positive mental health, environmental factors play a crucial role, encompassing air and water quality, access to green spaces, and clean energy sources (Das et al., 2023). Conversely, prioritizing mental well-being contributes to environmental sustainability and societal health, advocating for social equity, economic stability, and conservation efforts (Das et al., 2023). Core statistical methods like clustering are instrumental in analysing data and unveiling patterns, aiding decision-making for mental health professional (Das, 2023). This technique helps in simplifying complex dataset, enabling a deeper understanding of mental health trends and facilitating effective intervention (Mahato et al., 2023). Recent studies, including those by Mahato et al., (2024) and Das et al. (2024), continue to utilize clustering techniques in advancing our understanding of positive mental health.

**Literature review on PMH**

Thomas et al. (2017) conducted the study entitled "The influence of emotional intelligence, cognitive test anxiety, and coping strategies on undergraduate academic performance". The main objective of the study's is to explore the capacity to have both beneficial and detrimental effects on undergraduate students' academic achievement. Researchers used the descriptive method to investigate this study and the participants were 534 selected randomly. This study revealed that to mitigate the negative effects of cognitive test anxiety on achievement, it is crucial to create a comprehensive intervention model that supports the development of emotion regulation and self-regulation skills. These findings shed light on the influence of these student factors on long-term academic outcomes.

Ansari (2015) carried out a study entitled "Role of emotional maturity on stress among undergraduate students". investigator effort was undertaken to investigate how undergraduate students' emotional maturity affective their stress levels. The sample size of the study was 150 selected using the purposive sampling technique. This study showed that stress was shown to be significantly impacted by emotional maturity in undergraduate students and stress lower with increasing emotional maturity and increases with decreasing emotional maturity.

Cassady & Johnson (2002) conducted the study entitled "Cognitive test anxiety and academic performance". Researcher focused explicitly on the cognitive dimension of test anxiety was introduced and examined for psychometric quality as compared to existing measures of test anxiety. In this study, 168 participants were selected from a prominent midwestern university's undergraduate educational psychology course. The study's findings attempted to evaluate the distinct impact of cognitive test anxiety on test performance as well as the validity of the cognitive test anxiety scale in relation to the four-factor reactions to tests.

Karatas et al. (2013) investigates "correlation among high school senior students' test anxiety, academic performance and points of university entrance exam". The purpose of this study is to determine the relationship between test anxiety in senior high school students, academic achievement (GPA), and points on the university entrance exam (UEE). The investigator comprised 194 senior high school students from Turkey. Investigator used descriptive research method and the appropriate selection group for this study was selected using the purposive sampling approach. This study discovered a substantial inverse correlation between students' grade point average and test anxiety. Researcher intended inadequate knowledge it is advised that the elements that favourably impact test anxiety be further investigated in subsequent studies. Further studies may also include a variety of test anxiety measures and enlarge the sample size to allow for a more through examination.

Iorge et al. (2019) carried out a study on "Depression anxiety and stress among medical students". The purpose of this research is to compile information on medical students' stress, anxiety, and depression levels. 190 students provided response for this study. The investigator found that during their academic training, stress, anxiety, and depression are significant problems for medical students.

Shearin et al. (2019) conducted a study on "Effectiveness of a short education series to reduce anxiety for health professions graduate students: a pilot study". Educators in American graduate and college programs have realized that a significant area of attention needs to be paid to the psychological health of the current generation of students, sometimes referred to as "Millennials." The findings indicate that the graduate students who took part in this study had a general reduction in their levels of stress, anxiety, and depression following an integrated intervention that included CBT, mindfulness, and lifestyle stress management training.

Dendato and Diener (1998) carried out a study entitled "Effectiveness of cognitive/relaxation therapy and Study-Skills training in reducing self-reported anxiety and improving the academic performance of test-anxious students". The main objective of the researcher is found out academic performance of test-anxious students use through test anxiety inventory. Pre-treatment and posttreatment data on self-reported anxiety states and performance on exams in the classroom were gathered. It appears that study skills training accomplishes more than only lessen anxiety, as evidenced by the fact that it is beneficial when combined with cognitive therapy.

Vaughan et al. (2020) carries out a study on "Mental Health Measurement in a post covid-19 world: psychometric properties and invariance of DASS-21 in athletes and non-athletes". In this study, the psychometric qualities of the DASS-21 were evaluated for two samples of athletes in order to ascertain the usefulness of the instrument as a suitable operationalization of mental health in sport. Purposive sampling was used in a cross-sectional design by the researcher and 894 people in all were given the response. The current findings, considering that the scale function similarly for athletes and non-athletes, provide a significant contribution to the literature on athletes' mental health and lend support to conclusive comparison with the public.

Mahato et al. (2023) has discovered half of the relationship are significant, but the remaining are insignificant of DASS-21 scale by Lovibond and Lovibond (1995) and the self-efficacy scale by Sherer et al. (1982) on post graduate students. Researcher used descriptive survey method for this study.

Mawi et al. (2019) supervised a study on "Related to mobile usage, shopping behaviour and study habits as contributing factors of depression, anxiety and stress among university students". The purpose of this study is to look at how specific behavioural characteristics affect students' negative emotional states. This study uses a cross-sectional survey and a quantitative research approach. For this study, 377 undergraduate and graduate students are the target group. The model proved to be a substantial predictor of stress, anxiety, and depression, according to the regression's results. Among university students, study habits are a major role in lowering depression.

Peters et al. (2021) carried out a "comparison of DASS-21, PHQ-8, and GAD-7 in a virtual behavioural health care setting". In a real-world virtual behavioural healthcare setting, the purpose of this study was to compare the depression anxiety stress scale 21 depression scale (DASS-Depression) and anxiety scale (DASS-Anxiety) to the patient health questionnaire 8 (PHQ-8) And generalised anxiety disorder 7 (GAD-7), respectively. This study was cross-sectional in nature. These findings of this comparative study broaden our understanding of how the PHQ-8 and the DASS-21 depression scale, as well as the DASS-21 Anxiety and Stress scale and the GAD-7, classify symptom intensity in relation to one another in an adult population with mental and physical health problems.

Jain et al. (2020) conducted a study on "Related to prevalence of Mental distress and addiction habits among medical undergraduates". The current study used the DASS-21 Scale to determine the incidence of stress-related problems and addictive behaviour among undergraduate medical students. the cross-sectional approach was employed by the researcher with undergraduate medical students. According to the current study, medical students have an alarmingly high frequency of psychological issues, such as stress, worry, and sadness.

Arusha and Biswas (2020) investigate "Prevalence of stress, anxiety and depression due to examination in Bangladeshi youths: A pilot study". This study determined the aspects, mainly the sociodemographic,

lifestyle, and psychological ones, that have an impact on Bangladeshi students' mental health as a result of exams. A cross-sectional survey using observers was carried out in May 2020 in Dhaka, using 210 tertiary-level students as the sample. Exam-related stress, anxiety, and depression scores were measured using a modified DASS-21. The findings demonstrated a substantial relationship between mental health characteristics and living with family, spending time with parents, sleeping habits, and diets.

Shaw et al. (2016) supervised "Properties of the DASS-21 in an Australian community Adolescent population". The present research assessed the DASS-21's multifactor structure evidence in teenagers as well as the three subscales' specificity for adolescent across a range of ages. A cross-sectional survey of 2873 students are used as the study's samples. Researcher revelled the results indicate that this lack of discrimination does not reduce with increasing age.

Camilleri et al. (2022) carried out "The impact of COVID-19 and associated intervention on mental health: a cross-sectional study in a sample of university students". The ultimate objective of the study is to look into how coping strategies affect the link between mental health and the COVID-19 pandemic's effects. Investigators structure the survey cum descriptive strategies for conducting this study and select the 676 samples from university students. The results of this study are particularly relevant to college students, and they support the large body of research that has already been done on the reaction to significant stressful events at all societal levels, ranging from psychological to behavioural, preclinical to clinical.

Wang and Du (2020) conducted a study on "Implementation of the college student mental health education course (CSMHEC) in undergraduate medical curriculum: effects and insights". The goal of the study was to evaluate the efficacy of the college student mental health education course (CSMHEC), an 8-week intensive mental health education programme, and learn more about how the course may be improved based on input from students. The researcher used quasi experimental study with both quantitative and qualitative, he uses for DASS-21, CCSABI, SWLS to define quantitative analysis and other side thematic analysis method use for qualitative. The course's effectiveness was shown by the outcomes, which showed how medical students' life satisfaction levels increased and their psychological discomfort and academic burnout decreased. Additionally, the qualitative comments from the students provided insight into potential improvements for the course.

Khan et al. (2020) executed a study on "Mediating effect of positive psychological strength and study skill on examination anxiety among Nigerian college students". The goal of the current study was to ascertain how study skills and exam anxiety are mediated by positive psychological qualities in college students in Nigeria were the subject of survey research for this study. The path analysis result demonstrates that there is a strong and direct correlation between exam anxiety and study skills (SSK).

Duraku et al. (2023) investigate "Mental health, study skills, social support, and barriers to seeking psychological help among university students: a call for mental health support in higher education". He looked at Kosovar university students' mental health, study skills, psychological help-seeking barriers, and sense of social support. He also looked into their experiences using professional mental health services and their needs and views about the value of such services on campus. The researcher used parallel mixed-method design with both quantitative and qualitative process and select 234 samples. The quantitative justify through DASS-21 and other multidimensional scale and other side the qualitative justify through open ended questionnaire. The participants thought that the university's academic support services and mental health services would enhance their study techniques, study habits, sense of self-worth, and attitude towards social support; increase public awareness of mental health issues; and assist them in overcoming both academic and personal obstacles.

Baboo and Baths (2021) conducted a study on "Mental health assessment in undergraduate students using DASS-21 and Visual working memory task". To address this concern, we utilized the depression, anxiety and stress survey (DASS-21) and modified Sternberg working memory, thereby assessing the emotional states and assessing the impact on the cognitive ability of students in terms of working memory. Overall,

the results point to the potential benefits of programs like YES, which integrate psychosocial education with yoga-based techniques like breathing exercises and meditation, to lower stress and depression levels in college students as well as enhance their general well-being.

Munoz et al. (2023) carried out a study on "Factors associated with anxiety, depression, and stress levels in high school students". The investigators look in the objectives related to the association between high school students' levels of stress, anxiety, and depression with their levels of physical activity and academic achievement; secondly, this study attempts to relate and compare this factor with academic performance. Researchers justify the study through descriptive, comparative, cross-sectional and quantitative study and the number of selection sample size is 443 students. The primary findings show that there was a statistically significant negative correlation between high school students' academic achievement in mathematics and depression, as well as between depression and intense physical activity. Hotelling (1953) highlighted Fisher's z-transformation and its valuable insights into statistical behaviour, particularly in determining the normality of distributions. Dunn and Clark (1969, 1971) explored robust testing procedures and significance level determination for multivariate normal distribution, rooted in Fisher's z-transformation. Saha (2012, 2013), found positive correlation between creativity, socio-economic status, and environmental awareness in various studies. Karmakar et al. (2016) identified gender-based differences in intelligence among secondary school students, recommending educational strategies to address such gaps. Oblior and Amadi (2018) discussed significance tests for Pearson's correlation coefficient, employing various techniques including Fisher's z-transformation. Gorain et al. (2018) found association between internet usage and social isolation among undergraduate students, regardless of their field of study. Mondal et al. (2018) highlighted health risks associated with internet affinity among postgraduate students, suggesting preventive interventions. Wonu, Victor-edema, and Ndimele (2021) connected t-distribution, z-transformation, and SPSS techniques in assessing correlation coefficient significance. Gayen and Sen (2021) revealed significant correlation between anxiety, depression, and stress among postgraduate students, exacerbated by the ongoing pandemic. Kar and Saha (2021a, 2021b) found strong correlation between emotional intelligence, leadership style, and adjustment ability among undergraduate students. Sen et al. (2021a, 2021b) discussed gender differences in self-efficacy and mental health dynamics among postgraduate students. Gorain et el. (2022) identified relationships between internet dependency, social isolation, and personality traits among arts and science learners. Sutradhar and Sen (2022a, 2022b) explored emotional maturity, academic achievement, and study habits among B.Ed. trainees, findings significant association. Mahato, Gayen, and Mahato (2023a, 2023b, 2023c) studied various factors including self-efficacy, academic resilience, and internet addiction among undergraduate and higher secondary students. Mahato and Sen (2023) investigated the relationship between context knowledge, technological pedagogical content knowledge, and attitudes towards creative teaching among pre-service trainee teachers. Adhikari, Mahato, and Sen (2023) examined anxiety, depression, stress, and self-efficacy among arts and science students, revealing diverse relationships. Sutradhar et el. (2023) uncovered distinct student groups in terms of self-efficacy, depression, anxiety, and stress dynamics among university students. Mahato, Sen, and Adhikari (2023) revealed significant connections between gender and mental health factors among postgraduate students. Sen, Pal, and Adhikari (2023) compared mental health dynamics among postgraduate students across different groups, finding no significant differences. Khatun et al. (2022) explored the attitude towards yoga education among undergraduate students, discovering uniform attitudes across genders and residential backgrounds, as well as between arts and science students. Sutradhar et al (2023) investigated the application of correlation analysis in educational research, exploring the utilization of correlation coefficients. This study is expected to offer valuable insights for individuals across various proficiency levels, ranging from novices to seasoned academics. Das et al. (2023) delved into clustering techniques to analysis the lifestyle of health and sustainability among undergraduate students, revealing a noteworthy association between geographical location and lifestyle perspectives. Mohanta et al. (2023) utilized Mahalanobis Distance to compare institutional commitment among secondary school teachers of West Bengal, finding no significant distinction in dynamic characteristics between group based on four dependent variables. Gayen et al. (2023) examined the relationship between organizational climate and institutional

commitment among secondary school teachers, revealing significant connections among various dimensions of both constructs. Gayen and Mahato (2023) investigated smartphone addiction among postgraduate students, uncovering statistically significant positive correlations across multiple dimensions of addiction. Das (2023) explored the application of Mahalanobis Distance in assessing lifestyle of health and sustainability components, finding no significant variations based on stream, residence, or gender. Das et al. (2024) investigated the associations between lifestyles of health and sustainability, academic disciplines, and health variables among undergraduate students, revealing consisting associations across different domains.

**Objectives of the study**: The pursuit of the following objectives is carefully weighed:

1. To compare the positive mental health of the students of Purulia District of West Bengal in regard to gender.
2. To compare the positive mental health of the students of Purulia District of West Bengal in regard to residence.
3. To compare the positive mental health of the students of Purulia District of West Bengal in regard to institution.

**Hypothesis of the study**: researcher formulated the hypotheses that guide toward achieving the stated objectives:

**$H_{01}$:** There is no significant difference in positive mental health between male and female students of Purulia district of West Bengal.

**$H_{02}$:** There is no significant difference in positive mental health between rural and urban students of Purulia district of West Bengal.

**$H_{03}$:** There is no significant difference in positive mental health between students of teachers training institute and other students of Purulia district of West Bengal.

**Methodology of the study:**

- **Method:** The study utilized a descriptive survey method, in investigating the conditions of PMH within Purulia district of West Bengal.
- **Population:** The target population of the study encompasses all students enrolled in colleges and universities situated within Purulia District of West Bengal.
- **Sample & sampling technique:** Employing a random sampling technique, a total 513 students were selected for the study sample.
- **Tools used:** Data collection was facilitated through the utilization of "Positive Mental Health scale (PMH)" developed by Lukat et al. (2016) among students in Purulia district of West Bengal.
- **Statistics used:** The analysis involved the application of descriptive statistics, including measures of central tendency and dispersion, alongside inferential statistics like the t-test. SPSS version 26.0 was employed for computation.

**Variables:** Variables considered in the study comprised gender (male & female). Residence (rural & urban), institution (students of teachers training institute and others) and positive mental health within Purulia district of West Bengal.

## Result & Discussion

**Table 1: Results of Reliability test**

| **Reliability statistics** | |
|---|---|
| Cronbach's Alpha | No of Items |
| .850 | 9 |

To test the reliability of the scale (PMH), Cronbach's Alpha is calculated. The value of Cronbach's Alpha is .85, which indicates that our result is reliable enough.

**Table 2: Result of construct validity**

| Correlations | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | PMH |
| 11 | Pearson correlation | 1 | .471** | .421** | .399** | .324** | .383** | .362** | .305** | .365** | .663** |
| 12 | Pearson correlation | .471** | 1 | .313** | .367** | .313** | .380** | .428** | .344** | .364** | .646** |
| 13 | Pearson correlation | .421** | .313** | 1 | .277** | .384** | .493** | .369** | .358** | .327** | .663** |
| 14 | Pearson correlation | .399** | .367** | .277** | 1 | .342** | .444** | .413** | .370** | .411** | .656** |
| 15 | Pearson correlation | .324** | .313** | .384** | .342** | 1 | .394** | .496** | .384** | .340** | .657** |
| 16 | Pearson correlation | .383** | .380** | .493** | .444** | .394** | 1 | .484** | .443** | .456** | .740** |
| 17 | Pearson correlation | .362** | .428** | .369** | .413** | .496** | .484** | 1 | .361** | .484** | .721** |
| 18 | Pearson correlation | .305** | .344** | .358** | .370** | .384** | .443** | .361** | 1 | .372** | .651** |
| 19 | Pearson correlation | .365** | .364** | .327** | .411** | .340** | .456** | .484** | .372** | 1 | .673** |
| PMH | Pearson correlation | .663** | .646** | .663** | .656** | .657** | .740** | .721** | .651** | .673** | 1 |
| **. Correlation is significant at the 0.01 level (2-tailed). | | | | | | | | | | | |

Table 2 describe a correlation between items and PMH score, it shows a significant correlation between them. All the coefficient of correlation between items and Total (PMH score) are significant at .01 level of significance.

**Testing of hypothesis ($H_{01}$)** "There is no significant difference in positive mental health between male and female students of Purulia district of West Bengal" is taken into consideration.

**Table 3: Independent sample t-test between male and female students**

| | **Gender** | **Mean** | **SD** | **MD** | **df** | **Calculated t-value** | **Sig. (2-tailed)** | **Remarks** |
|---|---|---|---|---|---|---|---|---|
| PMH | Male | 17.25 | 4.329 | .380 | 511 | .473 | .322 | Not significant |
| | Female | 16.87 | 4.181 | | | | | |
| **N=513 (Male=209 and Female=304)** | | | | | | | | |

In table 3, the statistical analysis, the average scores, standard deviation, and the disparity in means between male and female students from Purulia district in West Bengal.

The calculated t-value (.473) of positive mental health between male and female students is less than the critical value (sig. .322) for the degree of freedom 511. So, the null hypothesis ($H_{01}$) "There is no significant difference in positive mental health between male and female students of Purulia district of West Bengal" is accepted.

**Testing of hypothesis ($H_{02}$)** "There is no significant difference in positive mental health between rural and urban students of Purulia district of West Bengal" is taken into consideration.

**Table 4: Independent sample t-test between rural and urban students**

| | Residence | Mean | SD | MD | df | Calculated t-value | Sig. (2 tailed) | Remarks |
|---|---|---|---|---|---|---|---|---|
| PMH | Rural | 16.92 | 4.252 | -.683 | 511 | -1.275 | .203 | Not significant |
| | Urban | 17.61 | 4.347 | | | | | |
| **N=513 (Rural=439 and Urban=74)** | | | | | | | | |

In table 4, the statistical analysis, unveiling the comparative essence between rural and urban students in the educational landscape of Purulia district, West Bengal.

The calculated t-value (-1.275) of positive mental health between rural and urban students is less than the critical value (Sig. .203) for the degree of freedom 511. So, the null hypothesis (**$H_{02}$**) "There is no significant difference in positive mental health between rural and urban students of Purulia District of West Bengal" is accepted.

**Testing of hypothesis ($H_{03}$):** "There is no significant difference in positive in positive mental health between teachers training institution and other students of Purulia district of West Bengal" is taken into consideration.

**Table 5: Independent sample t-test between teachers training institution and other students**

| | Institution | Mean | SD | MD | df | Calculated t-value | Sig. (2 tailed) | Remarks |
|---|---|---|---|---|---|---|---|---|
| PMH | Students of teachers training institution | 17.54 | 4.212 | .730 | 511 | 1.766 | .078 | Not significant |
| | Others students | 16.81 | 4.279 | | | | | |
| **N=513 (Teachers training institution=150 and others=363)** | | | | | | | | |

In table 5, the statistical analysis, unveiling the comparative essence between teachers training institution and others students in the educational landscape of Purulia district, West Bengal.

The calculated t-value (1.766) of positive mental health between teachers training institution and others students is less than the critical value (Sig. .078) for the degree of freedom 511. So, the null hypothesis (**$H_{03}$**) "There is no significant difference in positive mental health between teachers training institution and others students of Purulia district West Bengal" is accepted.

## Major findings of the study

The study uncovered a remarkable similarity between male and female students, as well as rural and urban students and also for the students of teachers training institution and others students in Purulia district, West Bengal, India. All items of this scale are satisfying its construct validity. Results of reliability test of this scale indicates a good enough. So, it may be assumed that construct validity for PMH score for this particular data set is established. This suggests that both genders, institution and students from different geographical backgrounds share a similar level of positive mental health.

## Conclusion

In conclusion, the study conducted in Purulia district, West Bengal, India, has revealed a striking parity in positive mental health between the students of teachers training institution and other students, male and female students, as well as those from rural and urban settings. Despite diverse backgrounds, no statistically significant differences were observed across various metrics, implying a uniform level of positive mental health among students irrespective of gender or geographical location and institutions.

These findings underscore the importance of addressing mental health needs universally and fostering inclusive strategies for mental well-being within educational contexts.

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