

Original research article**Correlation between wellness score of students of graduation and their grades in examination****¹Richa Hirendra Rai, ²Dr. Ranjana Bhatia, ³Jafar Khan, ⁴KM Annamalai, ⁵Vardhman Jain**¹PGDHE Scholar and Assistant Professor, Banarsidas Chandiwala Institute of Physiotherapy, New Delhi, India²PGDHE Supervisor, IGNOU Study Centre, New Delhi, India³BPT, MPT, MIAP, Senior Consultant Physiotherapist and HOD Physiotherapy Siddhi Vinayak Hospital, Udaipur, Rajasthan, India⁴Senior Consultant Physiotherapist & HOD Physiotherapy Apollo Hospital, Ahmedabad, Gujarat, India⁵MPT Ortho, Neuro Myoskeletal Technique, Neuro Myoskeletal Dry Needling Cupping Kinetics, Director & Senior Consultant Physiotherapist at Synergy Health Point (Founder and Director), Mumbai, Maharashtra, India**Corresponding Author:**Richa Hirendra Rai (richahrai@gmail.com)**Abstract**

Introduction: The Warwick-Edinburgh Mental Well-being Scale (WEMWBS) is a validated measuring tool used to assess mental well-being in individuals aged 13 to 74. The study aims to determine if there is a correlation between the Wellness Score of First Year Graduation students and their grades in examinations.

Methodology: The study uses a correlational research design, involving 100 female students from prestigious universities in Delhi. The scale has been validated and has demonstrated good reliability and validity for assessing mental well-being. The findings will contribute valuable insights and knowledge to the existing literature in the field of mental well-being and health care policy.

Results: The WEMWBS scale, developed by Tennant *et al.* (2007), measures mental well-being among students. The study found a significant association between students' wellness score (mental well-being i.e. stress levels) and their grades in examination. The average age of students was 20.17±0.89 years, with a majority of them being females. The average study hours were 4.15 ± 1.29 hours per day. The WEMWBS score demonstrated correlation between the score and students' grades.

Discussion and Conclusion: The study highlights the need for public health initiatives to promote health and healthy lifestyles among young professionals, as well as to establish mechanisms for the dissemination of population-based interventions and assess their effectiveness. Regular physical activity has been proposed as a means to prevent depression and enhance mental well-being.

Keywords: Correlation, wellness score, Warwick-Edinburgh mental well-being scale

Introduction

Unsuitably adapting to changes in one's life might result in the emergence of stressors. Young individuals in the transitional phase from senior secondary education to college experience various societal expectations and endeavor to navigate and adjust to numerous circumstances. Gaining acceptance into an appropriate institution of higher education, pursuing a chosen career path, and experiencing conflicts with family members are notable sources of stress. ("IGNOU 2016").

The university is an institution that is an integral component of the community and is responsible for incorporating its values into the social framework. Nevertheless, the comprehensive nature of the curriculum across diverse courses exerts a significant impact on the psychological well-being of students, leading to the imposition of stress. In contemporary society, there exists a heightened level of global competition, which has consequently led to elevated expectations placed upon the younger generation. It is imperative for the upcoming generation of young people, who will shape the future of society, to possess a comprehensive understanding of their current situation. By effectively managing and harmonizing their physical, mental, emotional, and professional development, they can effectively progress towards their desired objectives. Furthermore, this phase of higher education presents an opportune moment for individuals to undergo transformative shifts in their values and assume responsibility for their obligations. Individuals are engaged in the process of deductive thinking and are also capable of employing a more advanced manifestation of logical reasoning. Individuals must recognize and accept their connections to the Macrosystem, Mesosystem and Exosystem in order to attain emotional autonomy and exhibit socially responsible conduct.

However, it is crucial to acknowledge the substantial influence that both the college or institution providing higher education and the university responsible for establishing the curriculum have in these

matters. Effective management practices at the institutional level are of significant importance. Various scales have been developed to examine the influence of stressors on an individual's mental well-being. However, the most often suggested measure is the Warwick-Edinburgh Mental Well-being Scale (WEMWBS). The Warwick-Edinburgh Mental Well-being Scale is a validated measuring tool designed to assess mental well-being in individuals ranging from 13 to 74 years of age. The assessment consists of 14 statements that are phrased in a positive manner and are administered through recall after a period of two weeks. The aforementioned concept illustrates a quantifiable assessment of an individual's pleasant state of existence, cognitive processes, and thus, their Wellness Score. (Tennant, Hiller, Fishwick, *et al.*, 2007). The promotion of mental well-being is widely advocated in both developing and developed countries, such as India, due to its significant healthcare and economic implications. Mental illness imposes substantial costs on individuals and society as a whole. Moreover, the absence of mental well-being serves as a fundamental factor contributing to various physical ailments, unhealthy behaviors, and health disparities. (Stranges, Samaraweera, Taggart, *et al.*, 2004) (Sunitha and Gururaj, 2014). Recent research findings indicate that there is substantial and extensive economic value in the promotion of positive mental health. Consequently, mental well-being has gained significant recognition and prominence within the realm of mental health and public health policy.

Research objective

According to Stranges *et al.*, (2004), mental well-being has gained considerable attention in the fields of mental wellness and health care policy. In order to evaluate the levels of mental stress, the researchers employed the "Warwick-Edinburgh Mental Well-being Scale (WEMWBS)" with the appropriate permissions. This scale has been previously validated and has demonstrated good reliability and validity for assessing the mental well-being of individuals, as evidenced by studies conducted by Tennant *et al.* (2007) and Akhtar *et al.* (2013) for similar research objectives. The research quest for this study is as follows: Is there a correlation between the Wellness Score of First Year Graduation students and their grades in Examinations?

There may also be a link between physical risk factors, such as BMI, and mental well-being. This study was conducted to assess the different variables and examine the correlation between the number of study hours and academic achievement as well as mental well-being within the selected population.

The significance of this study lies in its potential to contribute valuable insights and knowledge to the existing body of literature in the field.

This study aims to explore the psychological perspective of young adults in our culture who are poised to become influential members of society and serve as representatives of India on the global stage. In light of the aforementioned considerations, the present investigation was undertaken to ascertain the potential impact of mental well-being on students' academic performance in forthcoming examinations.

Methodology

Research design: The study adopted a correlational research design. A convenience sampling method was employed to gather a sample of 100 female students of the same course from a prestigious university located in Delhi for the study.

Procedure and Protocol: Following the acquisition of informed consent from the participants, they were instructed to complete the Warwick-Edinburgh Mental Well-being Scale (WEMWBS) on a retrospective recall basis spanning two weeks. This was done one week prior to their First-year final examinations. The data was subsequently subjected to further analysis in order to determine whether there exists a correlation between the students' final exam scores and their mental well-being scores.

Bryman and Bell (2003) assert that self-administered questionnaires were employed as a means of data collecting in quantitative research technique. Therefore, a meticulously designed questionnaire was distributed to a diverse range of participants in order to ensure an accurate depiction of the entire community.

The study involved the distribution of 100 self-reported questionnaires to gather data. The participants were provided with the questionnaire, and upon obtaining their agreement, they were able to access the survey and complete the form within a time limit of five minutes. The collected responses were subsequently entered into an Excel spreadsheet, from which the data was analyzed.

The questionnaire known as the Warwick-Edinburgh Mental Well-being Scale (WEMWBS) has been determined to possess qualities of validity and reliability, as demonstrated in the study conducted by Tennant *et al.* (2007). The responses to the questionnaire were thoroughly examined, with the data being analyzed and presented through the use of tables, graphs and charts in the result section. The establishment of fundamental knowledge was deemed crucial by the researcher in order to have a comprehensive understanding of the subject matter. All the questions in the questionnaire were designed as closed-ended items to facilitate data collection while ensuring alignment with the research objectives.

According to Tennant *et al.*, (2007), the WEMWBS scale comprises 14 items that are scored on a Likert scale ranging from 1 to 5. This scoring system yields a minimum score of 14 and a maximum score of

70. Positive scores are given to each item. The composite score for the Warwick-Edinburgh Mental Well-being Scale (WEMWBS) was derived by summing the individual scores assigned to each item, with uniform weighting. A greater WEMWBS score is indicative of an elevated degree of mental well-being.

The scoring system categorized individuals' mental well-being into three categories: low, medium, and high. Scores falling within the range of 14-42 were classified as low, scores ranging from 43-60 were considered medium, and scores ranging from 61-70 were categorized as high.

Results

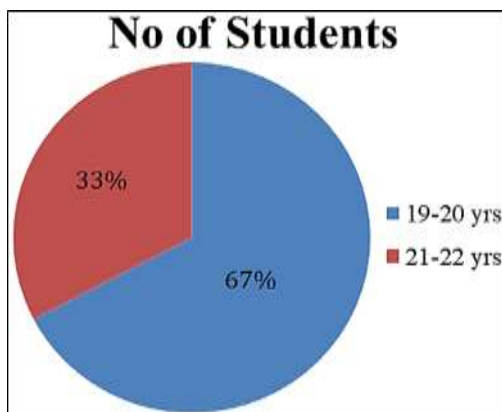


Fig 1: Age of Respondents

In terms of age, majority of respondents (N=70, Percentage=67%) belong to the age group of 19-20 years followed by 33% respondents (N=34) who belong to the age group of 21-22 years. The average age of the students was found to be 20.17±0.89 years. It can be judged from the results that maximum students (N=85, Percentage=81.73%) were females and (N=19, Percentage=18.26%) were males. All of them preferred to specify their gender.

Study hours of respondents

Table 1: Study hours of Respondents

No. of hours of study	N	Percentage
2 hours	18	17.30%
4 hours	60	57.69%
6 hours	26	25%
Total	104	100

It can be judged from the results presented in table 1 that maximum students (N=60, Percentage = 57.69%) are studying daily for 4 hours, followed by 6 hours (N=26, Percentage = 25) and 2 hours (N = 18, Percentage = 17). The average study hours were found to be 4.15 ± 1.29 hours in a day.

Table 2: WEMWBS Score of Respondents

Score	N	Percentage
14-42	6	6
43-60	85	82
61-70	13	12
Total	104	100

It can be judged from the results presented in table 2, that maximum students (N=85, Percentage=82%) had a score of Moderate Mental Well Being i.e. between 43-60 and least were of the Score between 14-42 (N=6, Percentage=6%) and only 13 students were (12%) having a high Mental Well-being Score. The average WEMWBS Score was found to be 51.48 ±7.25.

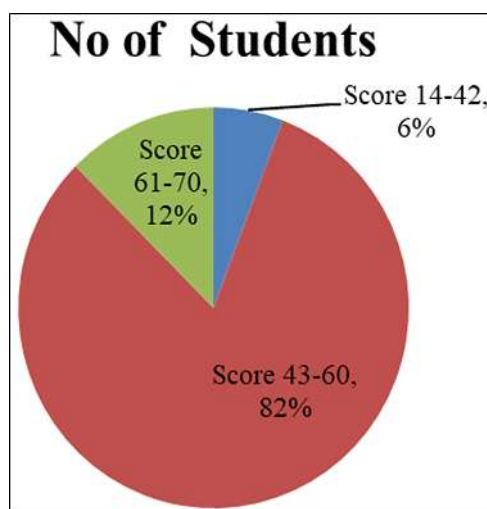


Fig 2: WEMWBS Score of Respondents

From the statistical analysis it can be inferred that the correlation between the WEMWBS Score and Marks obtained by the students is 0.36 ($p < 0.001$) which shows a moderate positive correlation which is highly significant.

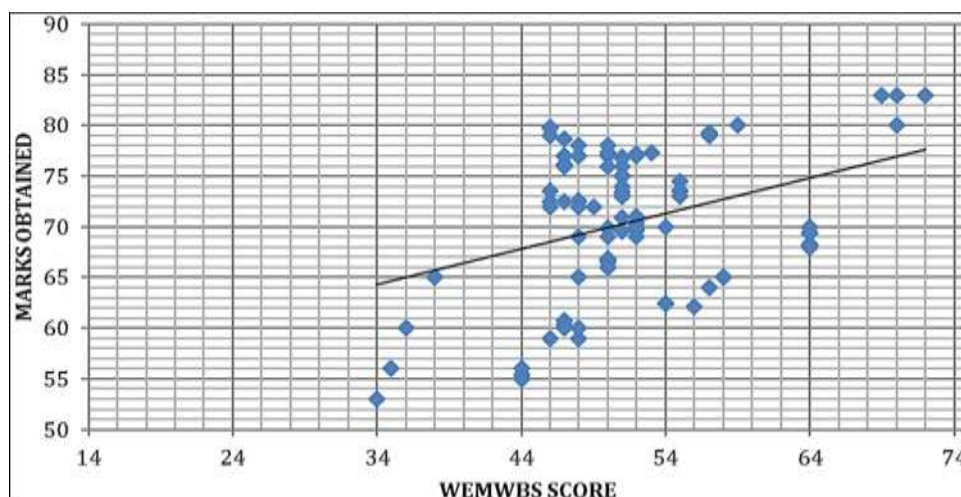


Fig 3: Association between WEMWBS Score and Grades in Examination of Respondents

Discussion

There exists a crucial need within the public health community to identify, develop, integrate, and execute initiatives that facilitate the promotion of health and the cultivation of healthy lifestyles among young professionals. Additionally, it is imperative to establish mechanisms for the dissemination of population-based interventions, while also assessing their effectiveness. There exists a necessity to produce population statistics of superior quality and resilience, which may serve as a guiding force for policies and initiatives. The implementation of deliberate and well-planned investments in health education and nutrition plays a crucial role in promoting the optimal development of young individuals. It is imperative that these programs are closely monitored and evaluated through the application of public health methodologies to assess their efficiency and overall impact.

The manifestation of social cohesion is increasingly observed in the realm of online social networks. The environment of a region is characterized by intricate interplays among several elements, including socio-cultural dynamics, economic issues, technological progress, natural resources and other relevant considerations.

The deleterious consequences of a sedentary lifestyle encompass an elevated susceptibility to morbidity, as well as the exacerbation of numerous chronic diseases and health disorders. These ailments include mental disorders, cardiovascular disease (CVD), congestive heart failure, stroke, specific malignancies, osteoporosis, obesity, type 2 diabetes, and hypertension. A significant percentage of individuals' daily time is dedicated to engaging in sedentary activities, which include minimal physical movement. Prolonged periods of sedentary behavior have been linked to unfavorable metabolic profiles, as well as an increased risk of experiencing depression or mental stress.

According to the World Health Organization's study from 2017, depression is a prevalent medical

condition characterized by enduring feelings of melancholy and a diminished capacity to engage in formerly enjoyable activities, along with an impaired ability to perform routine tasks, lasting for a minimum duration of two weeks. Furthermore, individuals may experience a decrease in energy levels, alterations in food, changes in sleep patterns, heightened anxiety, diminished ability to focus, difficulty making decisions, restlessness, feelings of low self-esteem, remorse, or despair, as well as contemplation of self-harm or suicide. The classification of a depressive episode into mild, moderate, or severe categories is contingent upon the quantity and intensity of symptoms exhibited. There exist efficacious interventions for the treatment of depression.

The implications of this phenomenon are significant: According to a research by the World Health Organization (WHO), in the year 2015, the prevalence of depressive disorders in India exceeded 56 million individuals, which accounted for around 4.5% of the total population.

Untreated depression can impede individuals' efficiency and productivity, diminish their inclination to engage in familial and communal activities, and perhaps culminate in suicidal ideation or behavior. Nevertheless, depression can be prevented and effectively treated. Engaging in regular physical activity has been proposed as a means to prevent depression and enhance mental well-being.

After considering the aforementioned, it is predictable that numerous studies have also indicated negative emotions and diminished psychological and physical well-being, resulting in a detrimental impact on students' academic performance. The studies have also focused on other concerns such as the heightened curriculum demands, the process of vocational selection, the attainment of gender roles, the establishment of sexual identity, the management of stress resulting from peer pressure and interpersonal connections, and the potential impact of an unsatisfying home and personal life.

This study recognized a potential to investigate and shape the trajectory of our society by examining the socio-cultural stress experienced by privileged young individuals and its influence on their academic achievements.

Study limitations

In this study, the WEBWMS questionnaire was employed as an assessment instrument for measuring well-being, specifically the wellness score. This questionnaire facilitated the conversion of subjective data into objective measurements. During the process of completing a questionnaire, the responder may have their own specific objectives and as a result, there may be a potential dearth of personalized experiences. Nevertheless, each study approach possesses its own advantages and disadvantages. The questionnaire approach was chosen due to its cost efficiency, scalability, and capacity to produce findings quickly. According to the inventors of the Warwick-Edinburgh Mental Well-being measure (WEMWBS), this measure is beneficial for assessing mental health promotion interventions because to its emphasis on positive aspects. However, it is important to note that additional study is necessary to confirm that the scale is capable of detecting changes, as noted by Tennant *et al.* (2007).

Below are some statements about feelings and thoughts.					
Please tick (✓) the box that best describes your experience of each over the last 2 weeks					
STATEMENTS	None of the time	Rarely	Some of the time	Often	All of the time
I've been feeling optimistic about the future	1	2	3	4	5
I've been feeling useful	1	2	3	4	5
I've been feeling relaxed	1	2	3	4	5
I've been feeling interested in other people	1	2	3	4	5
I've had energy to spare	1	2	3	4	5
I've been dealing with problems well	1	2	3	4	5
I've been thinking clearly	1	2	3	4	5
I've been feeling good about myself	1	2	3	4	5
I've been feeling close to other people	1	2	3	4	5
I've been feeling confident	1	2	3	4	5
I've been able to make up my own mind about things	1	2	3	4	5
I've been feeling loved	1	2	3	4	5
I've been interested in new things	1	2	3	4	5
I've been feeling cheerful	1	2	3	4	5

Conclusion

There is a significant association between Wellness Score (mental well-being i.e. stress levels) of students and their grades in Examination thus experimental hypothesis is accepted.

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