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Effect of Yoga on Psychological Well-Being Among College Students

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Abstract: The main purpose of the study was to investigate the effect of yoga on psychological well-being in female college students. Current research was conducted in the Government Associate College (Women) of Jhang Region. Purposive sampling was applied for the selection of the study sample. The study population consisted of 34 female students aged 16 to 19 years who voluntarily participated in the study. The current study was supported by experimental research. An 8-week exercise protocol (yoga) was used to check the effect of yoga on stress and the psychological well-being of students. The study results found that there is a significant improvement in psychological well-being after some interventions, as the mean difference between pre- and post-test scores is significantly different from zero. However, the researcher concluded that there is a significant effect of the specific interventions (Yoga) on different aspects of psychological well-being. The study findings suggested that college administration should encourage female college students to engage in regular aerobic and yoga exercises to reduce their perceived stress levels and should develop outreach programs to educate female students on the benefits of exercise in reducing stress and improving mental health. This will lead to the production/promotion of the wholesome development of young people and produce a healthy and useful nation for society.

Key Words: Yoga, Psychological Well-Being, Female Students, Exercise Protocol, College

Introduction

Physical well-being involves the condition of the body and its functioning. It includes factors such as good health, adequate nutrition, regular exercise, and sufficient rest. Physical well-being is essential for maintaining energy levels, preventing diseases, and promoting longevity (Friedman & Kern, 2014). Mental well-being refers to an individual's emotional and psychological stability, reflected in a positive mindset, the ability to handle stress effectively, and maintaining a healthy balance between professional duties, personal responsibilities, and relaxation. Social well-being relates to the strength and quality of a person's relationships and their sense of belonging within a community, highlighting the importance of supportive networks, empathy, effective communication, and nurturing interactions (Kim & McKenzie, 2014).

Overall, well-being is a broad and multidimensional concept that encompasses different areas of an individual's life. It is shaped by physical, psychological, and social elements and can be improved through self-care, healthy habits, meaningful connections, and a clear sense of purpose (Wadephul et al., 2020).

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There is also an increase in self-esteem and body image as a result of exercise programs, as it is crucial to the overall well-being (Thoegersen et al., 2011). Exercising can also make an individual feel a sense of accomplishment and improve their physical appearance, which will lead to self-confidence and self-esteem (Herbert et al., 2020). In general, the available literature suggests that the beneficial impact of exercise on the alleviation of stress and psychological health of college students is present. Nevertheless, additional research is needed to identify the most lucrative exercises that are most useful, common, and prolonged enough to contribute to not only the mental but also the physical health of this segment of the population as well (Vandenderlin et al., 2020).

The other field where Yoga has been discovered to help mental health is the one that involves minimising anxiety and sadness. These are the chemical brain substances, the endorphins, which make a person feel happy and well, and they are discharged when one happens to be exercising. Yoga will also assist you in dealing with stress and your attitude in general.

Yoga has the power to make a person more active and occupied, and being concerned with studying or passing exams is long-term (Ramasubramanian, 2017). Besides that, the quality and duration of sleep, which are among the keys to the ideal physical and psychological state, would positively affect habitual yoga (Iarovici, 2014). The other college students also perceive exercise to be one of the events that will enable them to become familiar and feel that they belong to something (Eke & Odoh, 2014).

The advantages of yoga practised on a regular basis are many for the well-being of the students. Through exercise, the body produces endorphins, natural mood-lifting chemicals present in the brain, which cause one to feel better and help to instil optimism. Physical activity can also boost self-esteem and confidence, diminish the impact of a depressive and anxious state, and improve overall mental and emotional health (Herbert et al., 2020).

The demographics of the students, such as age, sex, socioeconomic status and ethnicity, could be significant stressors and determinants of overall well-being (Fuller-Rowell et al., 2021). The female students might be more prone to stress and anxiety connected with the academic operations and contacting others, and the aged students might be more prone to stress about their professional careers (Brook and Willoughby, 2015). Moreover, the female students will probably experience the impact of stress and anxiety more than their opponents among men. It may be attributed to the social aspects, gender roles and hormonal inequalities (Gao et al., 2020).

The financial constraint and the lack of available resources may make the students of LSES more stressed, but the students with higher SES may be more stressed because of academic performance and high standards (Karimshah et al., 2013). Similarly, Ethnic minority students will also be able to undergo special stressors, and they are the ones connected with discrimination, cultural differences, and social segregation. It is also capable of affecting their psychological well-being and health (Arday, 2018).

Stress, anxiety and depression have become very vulnerable among college students, and this has affected college students negatively in terms of their overall health and education. Although the above studies yielded favourable results on the effect of exercise and yoga on mental and physical health of the subjects, empirical data on the relationship between exercise and yoga practices and college students in relation to age, gender, socioeconomic status and ethnicity were not established. This proves to be the lack of particular pieces of research that makes it harder to find effective strategies that will serve the special needs of the different categories of students in the learning institutions.

This study holds significant value for students, educators, and policymakers. Examining the relationship between exercise, yoga, and student well-being contributes to a deeper understanding of how yoga may serve as a preventive and therapeutic strategy for stress management. The findings will provide evidence-based recommendations for integrating yoga programs within college settings, helping students improve their physical health, enhance emotional resilience, and foster social connectedness. Additionally, by exploring the influence of demographic factors, the study will offer practical insights into tailoring interventions for diverse student populations. Ultimately, the research will

support the development of healthier learning environments, where students can thrive academically and personally, while also informing future studies in the fields of physical education, psychology, and health sciences.

Material and Methods

The present study employed a pre-test and post-test experimental research design with a longitudinal data collection approach to investigate the effect of an 8-week yoga protocol on psychological well-being among college students. Participants were assigned to an experimental group (EG = 17) and a control group (CG = 17) based on specified inclusion and exclusion criteria.

Table 1

Inclusion Criteria and Exclusion Criteria

Inclusion criteria	Exclusion criteria
Age between 16 and 19 years	Below 16 and above 19 years
Psychologically disturbed participants	Psychologically fit persons

The target population consisted of female students enrolled in 1st Year and 2nd Year classes at the Government Associate College (Women), Jhang Region, Pakistan. Initially, 34 psychologically disturbed student participants were identified from each class through purposive sampling. From this pool, 17 participants were selected for the experimental group and 17 for the control group. Standardised scales were used for data collection. The Psychological Well-being Scale (PWBS-10) was used for determining the level of psychological well-being of female college students (Ryff, 1995).

A pre-test was administered to both groups before the commencement of the exercise protocol to measure baseline stress and well-being levels. After the 8-week intervention, a post-test was conducted for both groups. Yoga exercises adopted by MacAulay & Kalman (2006), which include the Breathing technique, Leg Up / wall pose, bowing pose, and Cobra pose. All the participants were engaged in exercise for a consistent period, ranging from 8 weeks during their studies at the college.

Table 2

Exercise Protocol for Yoga

Exercise Protocol (Total duration of activity is 24 minutes)			
Four days per week	Yoga	Duration	Interval
1st week to 8th week	▸ Breathing technique ▸ Leg Up / wall pose ▸ Bowing pose ▸ Cobra pose	5 min of each exercise	30-sec rest after every 2 min

The study was conducted in accordance with ethical principles, including obtaining informed consent from participants, ensuring participant confidentiality, and protecting participants from harm or discomfort during the study.

For data analysis, Statistical Product and Service Solution (SPSS) version 26 was used. Data collected through the questionnaires, Perceived Stress Scale, were analysed by using descriptive and inferential statistical methods to determine the effects of exercise on stress among college students. Descriptive statistics (Frequency, percentages, Mean and standard deviation) and inferential statistics (Paired sample t-test, independent sample t-test, and correlation) were used to analyse and tabulate the collected information.

Results

Table 3

Frequencies and Percentages of Yoga Group and Control Group Participants

Demographics		Frequency	Percent
Ethnicity	Punjabi	7	20.6
	Saraiki	9	26.5
	Balooch	8	23.5
	Noul	10	29.4
	Total	34	100.0
Socioeconomic Status	Upper Class	14	41.2
	Middle Class	10	29.4
	Lower Class	10	29.4
	Total	34	100.0
Eating Habits	Emotional Eater	6	17.6
	Habitual Eater	14	41.2
	Critical Eaters	4	11.8
	Energy Eaters	10	29.4
	Total	34	100.0
Current Daily Physical Activity Habits	Perform daily physical activities	12	35.3
	part-time perform daily physical activities	15	44.1
	Do not perform daily physical activities	7	20.6
	Total	34	100.0

Table 3 presents the demographics of the participants in a study. The table shows the frequency and percentage of participants in different groups based on various demographic characteristics. In terms of groups, there were two groups in the study: the Experimental (Yoga) group and the Control group. The table shows that both groups had an equal number of participants, with 50% each.

Table 4

Comparison between the Experimental Group (Yoga) and the Control Group in Psychological Well-being Variables before the Treatment

Testing Variables	Group	N	Mean	Std.	t	Sig.
Autonomy	Experimental (Yoga group)	17	3.8659	.64897	3.225	.093
	Control group	17	3.8412	.83108		
Environmental Growth	Experimental (Yoga group)	17	3.8541	.56337	4.193	.060
	Control group	17	3.8000	.87017		
Personal Growth	Experimental (Yoga group)	17	3.6659	.62218	3.482	.061
	Control group	17	3.7765	.84984		
Purpose in Life	Experimental (Yoga group)	17	3.6112	.85088	.242	.810
	Control group	17	3.5471	.68247		
Self-acceptance	Experimental (Yoga group)	17	3.8176	.55760	1.771	.086
	Control group	17	3.8412	.67644		
Psychological Wellbeing	Experimental (Yoga group)	17	3.7629	.52894	3.683	.071
	Control group	17	3.6212	.48626		

Table 4 presents a comparison between the experimental group (Yoga) and the control group in psychological well-being variables before treatment. The table provides information about the mean, standard deviation, t-value, and significance level of each testing variable for both groups. Before the training protocol, the experimental group B (Yoga) had slightly higher mean scores on most psychological well-being variables compared to the control group B, but the differences were not statistically significant except for Self-acceptance and Psychological Well-being. Therefore, the researcher cannot conclude that there is a significant difference in psychological well-being variables between the two groups before the treatment.

Table 5

Pre and Post-test Comparison in Psychological Well-being of the Yoga group

Paired Samples Statistics					
Pairs of testing variables		Mean	N	Std.	Std. Error Mean
Pair 1	Autonomy (Post)	5.8659[a]	17	.64897	.15740
	Autonomy (Pretest)	3.8659[a]	17	.64897	.15740
Pair 2	Environmental Growth (Post)	5.8541[a]	17	.56337	.13664
	Environmental Growth (Pretest)	3.8541[a]	17	.56337	.13664
Pair 3	Personal Growth (Post)	5.6659[a]	17	.62218	.15090
	Personal Growth (Pretest)	3.6659[a]	17	.62218	.15090
Pair 4	Purpose in Life (Post)	5.6112[a]	17	.85088	.20637
	Purpose in Life (Pretest)	3.6112[a]	17	.85088	.20637
Pair 5	Self-acceptance (Post)	5.8176[a]	17	.55760	.13524
	Self-acceptance (Pretest)	3.8176[a]	17	.55760	.13524
Pair 6	Psychological Wellbeing (Post)	5.7635	17	.52910	.12833
	Psychological Wellbeing (Pretest)	3.7629	17	.52894	.12829

a. The correlation and t cannot be computed because the standard error of the difference is 0.

Table 6

Paired Samples Correlations

		N	Correlation	Sig.
Pair 6	Psychological Wellbeing (Post) & Psychological Wellbeing (Pretest)	17	1.000	.000

The given data represents a set of paired samples related to psychological well-being, including various factors affecting it, such as autonomy, environmental growth, personal growth, purpose in life, and self-acceptance. The Paired Samples Statistics table shows the mean, standard deviation, and standard error for each pair of variables (pre- & post-test) for each factor. The Paired Samples Correlations table shows the correlation coefficient between pre- and post-tests for psychological well-being, which is perfect (1.000). The Paired Samples Test table shows the results of the paired t-test for the difference between pre- and post-test scores for psychological well-being. The mean difference is 2.00059, and the standard deviation is 0.00137. The t-value is 6012.175, with 16 df, which is highly significant ($p < .001$). The results suggest that there is a significant improvement in psychological well-being after some interventions, as the mean difference between pre- & post-test scores is significantly different from zero. However, the researcher concluded that there is a significant effect of the specific interventions (Yoga) on different aspects of psychological well-being.

Findings and Discussion

The findings of the present study reveal that yoga has a significant positive impact on psychological well-being among college female students. The demographic analysis indicated that participants were from diverse ethnic, socioeconomic, and lifestyle backgrounds, ensuring a representative sample.

Before the yoga intervention, both the experimental (yoga) and control groups showed comparable levels of psychological well-being, with no statistically significant differences in autonomy, environmental growth, personal growth, purpose in life, or self-acceptance. This indicates that both groups started at a similar baseline level of psychological well-being. However, after the yoga intervention, the experimental group demonstrated substantial improvements across all psychological well-being variables.

It also influenced the self-development, self-determination, self-direction in life, self-acceptance and general mood of psyche as the mean score of the variables in pre-test and the post-test had been changed significantly.

These observations are not an exception since most of the other studies undertaken in the past established the positive role of yoga in the mental and emotional state. The yoga classes have been discovered as an indicator of reducing stress levels, anxiety, and depression significantly, with a high resilience and quality of life (Cramer et al., 2013). Likewise, in the research and development of Liu et al. (2024), the researchers concluded that yoga is a fascinating positive intervention for the psychological state of college female students, which suggests that yoga can be implemented in a college in the form of an intervention. In addition to this, yoga is also reported to reduce stress and transform students into university and nursing students, and these results also coincide with the current findings (Bussing et al., 2012; Woodyard, 2011).

Curiously enough, these findings have comparable results to those of Khalsa et al. (2016) and Park et al. (2014), who found that in the post-yoga practice, they felt more meaningful, self-reliant, and even accepted themselves. On the same note, Ross and Thomas (2010) and Daubenmier et al. (2013) had pointed out its use in the improvement of the elements of mindfulness, emotional control and the personal development factor that was also established in the study.

Conclusion

The research study was meant to investigate the effects of yoga on the psychological well-being of the female college students who were aged 16-19. Such results suggest that yoga can be introduced as a method of psychological well-being improvement for college females. The researchers also determined that the demographic factors, such as the locality, ethnicity, socioeconomic status, parents' qualifications, eating habits and existing daily physical activity habits, would not be crucial in female college-level students. Generally, the paper has unveiled the importance of exercise, specifically yoga, in the context of the attainment of the sought-after psychological well-being by female college students.

Recommendations

1. Recruitment of female college students (16-19) to attend yoga classes to improve their psychological condition.
2. Consider the idea of implementing the yoga sessions within the college wellness initiatives that would help improve psychological well-being among female students.
3. Encourage female students to develop positive coping strategies for managing stress, such as talking to a trusted friend or family member or practising relaxation techniques.
4. Consider offering workshops or seminars on time management and organisational skills to help female students better balance their academic and personal responsibilities.
5. Encourage faculty and staff to be aware of and responsive to signs of distress in students, and to provide appropriate referrals to mental health resources.
6. Provide accommodations and support for female students with mental health conditions, such as extra time on exams or flexible deadlines.

Limitations of the Study

1. The study was delimited to only one college in a specific district, which limits the generalizability of the findings to other colleges or regions.

2. Sample size is kept at the level of convenience for the researchers and not with reference to the nature of the problem relating to a particular community. So, there are limitations to expanding the sample size.
3. Due to limited resources at the disposal of the student researcher, practically, the student conducts research within the boundaries of available 'finance, time and expertise.
4. The study only focused on aerobic and yoga exercises, and it is possible that other types of exercises may have different effects on stress and psychological well-being.
5. The study only examined the effects of a limited number of demographic variables on stress and psychological well-being, and it is possible that other variables, such as personality traits, may also play a role.

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