
PSYCHOLOGICAL WELL BEING OF PHYSICAL EDUCATION MAJOR

Aarti Rana¹ Samiran Chakraborty²Abhishek Tripathi³ Shivam Thapa⁴¹M.P.Ed. Scholar, Indira Gandhi Institute of Physical Education and Sports Sciences, Department of Physical Education & Sports Sciences, University of Delhi.²Professor, Indira Gandhi Institute of Physical Education and Sports Sciences, Department of Physical Education & Sports Sciences, University of Delhi.³Assistant Professor, Indira Gandhi Institute of Physical Education and Sports Sciences, Department of Physical Education & Sports Sciences, University of Delhi.⁴Research Scholar, Indira Gandhi Institute of Physical Education and Sports Sciences, Department of Physical Education & Sports Sciences, University of Delhi.Author email id: ranaaarti0404@gmail.com

Abstract

Background: - Psychological well-being plays a major role in physical education majors while they have unique opportunities for promoting physical and mental well-being, they also face their own set of challenges. It influences their academic performance, professional development, and overall quality of life.

Purpose: - The objectives of the study to compare the psychological wellbeing of male and female students who are pursuing B.Sc. B.P.Ed. M.P.Ed. in physical education and to assess the different variables Autonomy, Environmental mastery, Positive relation, Purpose in Life, Self-acceptance and high on Personal Growth. The study's findings will assist teachers build appropriate training programs for physical education students.

Methodology: - The study was conducted on 114 (81 male and 33 female) physical education students who are pursuing B.Sc., B.P.Ed., M.P.Ed. from the different colleges of India and lying between age group of 18-25 years. The Ryff's Psychological Well-Being Scales (PWB), 42 Item version is a psychometrically sound test that includes 42 items and 6 variables. The collected data was analysed using the Independent sample T- test with the help of SPSS-22 version. The graphical representation of data was done by using MS Excel-21 version.

Result: - Result of t-test showed that there was no significant difference between male and female physical education students of different colleges of India, for the variables Autonomy (1.89), Environmental Mastery (0.34), Personal Growth (0.60), Positive Relation (-0.35), Purpose in Life (- 0.89) and Self-Acceptance (1.32). All the p-values of the variables are more than the 0.05 significance level. All the male physical education students performed moderate on variables Autonomy, Environmental Mastery, Positive Relation, Self-Acceptance, Purpose in Life and high on variable Personal Growth. All the female physical education students performed moderate on variables Autonomy, Environmental mastery, Positive relation, Self-acceptance and performed high on variables Personal Growth, Purpose in life.

Conclusion: - The study concluded that male and female physical education students of different colleges of India, performed moderate on variables Autonomy, Environmental mastery, Positive relation, Purpose in Life, Self-acceptance and high on Personal Growth.

Keywords: psychological well-being, physical education, t-test.

INTRODUCTION

Psychological well-being is a condition of ideal psychological functioning marked by joyful feelings, a feeling of direction and meaning in life, acceptance of oneself, independence, mastery, wholesome interpersonal interactions, and personal development (Ryff and Keyes, 1995). Carol Ryff produced a theory known as the six-factor model of psychological well-being, which identifies six elements that go into a person's psychological well-being, happiness, and contentment. A sense of purpose and meaning in life, healthy relationships with others, autonomy, environmental mastery, self-acceptance, and personal development are all components of psychological well-being. Reaching a balanced condition that is influenced by both rewarding and stressful life events is the path to psychological well-being. Physical education is an integral part of the total educational process and is essential for developing the physically active individual. It provides opportunities for students to learn motor skills, develop fitness, and acquire knowledge and understanding of physical activity and its benefits (Corbin and Pangrazi, 2001). Physical education is a basic component of the instructive educational modules that centers on the improvement and upkeep of students' physical wellness, engine aptitudes, and in general wellbeing through organized physical movement, work out, and instruction. It includes a wide run of exercises planned to advance physical advancement, engine coordination, collaboration, sportsmanship, and long-lasting propensities of wellbeing and well-being. It is recognized that psychological well-being plays a major role in physical education majors while they have unique opportunities for promoting physical and mental well-being, they also face their own set of challenges. According to Hagger, Chatzisarantis, Culverhouse, and Biddle (2003), psychological well-being, which is defined by pleasant feelings, self-confidence, and intrinsic motivation, increases students' involvement and engagement in physical education programs. Pupils who are in good emotional and mental health are more likely to approach physical activities with

excitement, which increases participation and enjoyment. Students' performance in physical education is positively impacted by their psychological well-being. Higher psychological well-being has been linked to enhanced focus, concentration, and self-regulation, which improves motor skills, coordination, and general performance in a variety of physical activities (Cohen, Elfering, Schmitz-Hübsch, Hänsel, & Käser, 2006). Prioritizing psychological well-being in physical education fosters an inclusive learning environment where all students feel valued, respected, and supported (Ennis, 2017). Promoting psychological well-being in physical education helps student develop resilience, social skill, and positive attitude towards physical activity, fostering lifelong healthy habits (Janssen & LeBlanc, 2010). A lack of psychological well-being can significantly impact physical education majors, leading to various academic, social, emotional, and physical challenges. Academically, students may experience decreased concentration, low motivation, and poor academic performance, which can hinder their ability to meet educational goals (Adams et al., 2016). The objectives of the study to compare the psychological wellbeing of male and female pursuing B.Sc. B.P.Ed. M.P.Ed. in physical education, to assess their level (low, moderate and high) of psychological well-being and to assess the different variables of psychological well-being like autonomy, environmental mastery, personal growth, purpose in life, self-acceptance, positive relation and overall psychological wellbeing. Psychological well-being influences their academic performance, professional development and mental health. It also improves their concentration, motivation, self-confidence, social connection and overall quality of life.

METHODOLOGY

Selection of Subjects: For the purpose of the study, 114 physical education students were selected who are pursuing B.Sc., B.P.Ed., M.P.Ed. from the different colleges of India and lying between age group of 18-25 years. 24 Male (24%) & 12 Female (10%) from B.Sc., 26 Male (20%) & 11 Female (10%) from B.P.Ed. and 31 Male (27%) and 10

Female (9%) from M.P.Ed. Graphical Representation of the students based on their

gender and courses is given in figure 1.

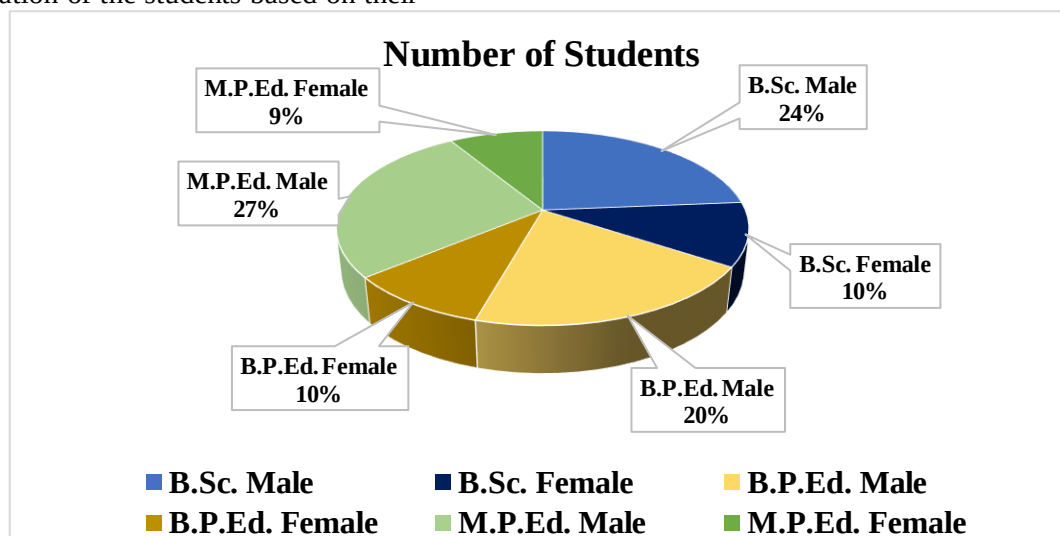


Figure 1: Summary of Frequency and Details of the subjects

Selection of Variables: For the study psychological well-being selected as variable in which Autonomy, Environmental Mastery, Personal Growth, Positive Relation, Purpose in Life and Self-Acceptance selected as sub-variables. **Selection of Tool:** "Ryff's Psychological Well-Being Scales (PWB), 42 Item version" developed by psychologist Carol D. Ryff. The questionnaire is applicable to find out the psychological well-being, which measures six aspects of well-being and happiness. It involves 42 questions, which contain 7 questions for assessment of "Autonomy", 7 questions for assessment of "Environmental Mastery", 7 questions for assessment of "Personal Growth", 7 questions for assessment of "Positive Relations", 7 questions for assessment of "Purpose in Life" and 7 questions for assessment of "Self-Acceptance". Scale was on Likert 6-point scale in spectrum of 1-6 in which 1 means "Strongly Disagree" and 6 means "Strongly Agree". **Selection of Procedure:** The research scholar collected the data by visiting the IGIPSS, University of Delhi and sent Google Form to different sports colleges. The researcher explains the purpose of the study. The researcher requested the subjects to provide authentic and correct information in case of any ambiguity arising out any content from the parts of respondent, the researcher

provided immediate assistance to subjects for clarification of any doubts. The subjects were assured that information provided by them would keep confidential. **Statistical Analysis:** To compare and find out the relationship and effectiveness of psychological well-being on selected variables, the under mentioned statistical technique were applied on the collected data to measure the score - Descriptive statistics- Mean, Standard Deviation and Independent sample T-test was employed with the help of SPSS-22 version and the level of significance chosen was 0.05 throughout the study. The graphical representation of data was done by using MS Excel-21 version.

RESULTS

To find out and compare the psychological well-being of male and female students' researcher first obtained the mean and standard deviation of the scores of psychological well-being variables - Autonomy, Environmental mastery, Personal growth, Positive relation, Purpose in life and Self-acceptance. The researcher later used Independent t-test to understand that there was no significant difference in various Psychological Well-Being variable between the male and female physical education students. The level of significance chosen was 0.05 level throughout the study. The Microsoft Excel used for graphical

representation of mean value and standard deviation of different Psychological Well-

Being variables of male and female physical education students.

Table 1: The Result of The Analysis is Given Below

Variable	Gender	N	Mean	Std. Deviation
Autonomy	Male	81	28.96	4.90
	Female	33	26.94	5.80
Environmental Mastery	Male	81	27.58	3.82
	Female	33	27.30	4.38
Personal Growth	Male	81	31.24	6.40
	Female	33	32.00	5.71
Positive Relation	Male	81	29.12	5.34
	Female	33	29.52	5.53
Purpose in Life	Male	81	29.53	4.68
	Female	33	30.39	4.69
Self-Acceptance	Male	81	29.27	6.25
	Female	33	27.55	6.51

The table no.1 reveals the descriptive analysis of psychological well-being variables of male and female physical education students, the researcher found Mean & Standard Deviation score of Autonomy of male and female was 28.96 ± 4.90 and 26.94 ± 5.80 , Environmental Mastery of male and female was 27.58 ± 3.82 and 27.30 ± 4.38 , Personal Growth of male and female was 31.24 ± 6.40 and 32.00 ± 5.71 , Positive Relations of male and female was 29.12 ± 5.34 and 29.52 ± 5.53 , Purpose in Life of male and female was 29.53 ± 4.68 and 30.39 ± 4.69 , Self- Acceptance of male and female was 29.27 ± 6.25 and 27.55 ± 6.51 . The graphical representation of mean and standard deviation is given in figure 2.

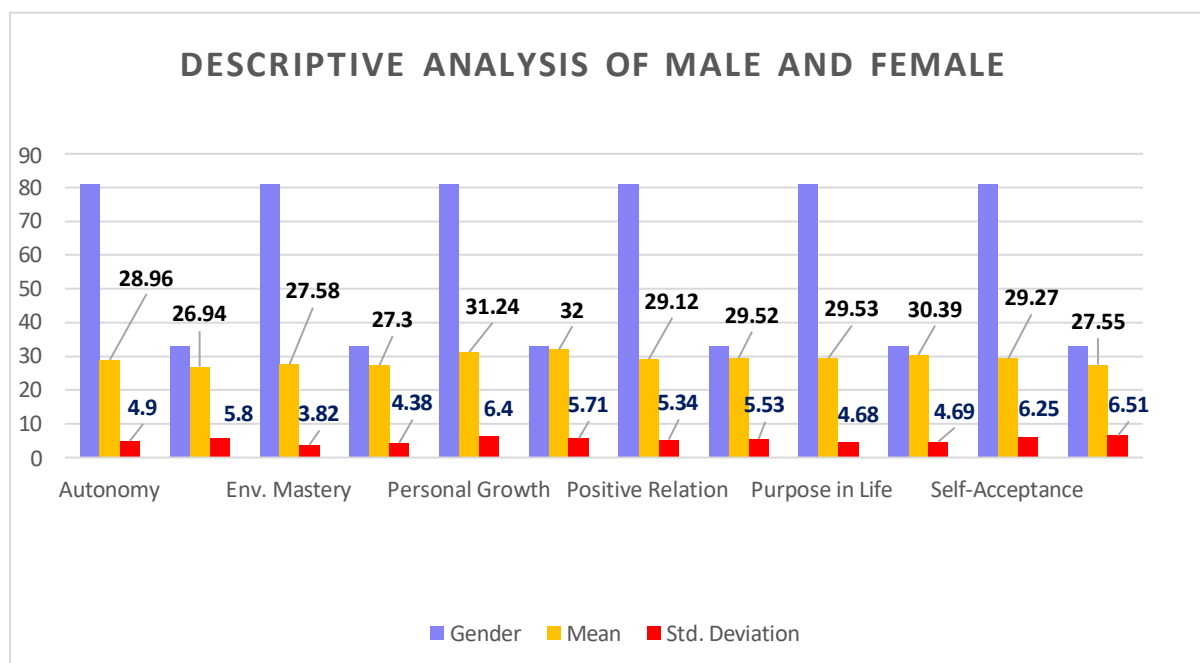


Figure 2: Graphical Representation of Mean Value and Standard Deviation of different Psychological Well-Being Variables of both Male and Female Physical Education Students

Table 2: The Result of t-test given below

Variable	Gender	N	Mean	Std. Deviation	Std. Error Mean	Mean Difference	T	Sig. (2-tailed)
Autonomy	Male	81	28.96	4.90	0.54	2.02	1.89	0.06
	Female	33	26.94	5.80	1.01			
Environmental Mastery	Male	81	27.58	3.82	0.42	0.28	0.34	0.74
	Female	33	27.30	4.38	0.76			
Personal Growth	Male	81	31.24	6.40	0.71	-0.77	-0.60	0.55
	Female	33	32.00	5.71	0.99			
Positive Relation	Male	81	29.12	5.34	0.59	-0.39	-0.35	0.73
	Female	33	29.52	5.53	0.96			
Purpose in Life	Male	81	29.53	4.68	0.520	-0.86	-0.89	0.37
	Female	33	30.39	4.69	0.82			
Self- Acceptance	Male	81	29.27	6.25	0.69	1.73	1.32	0.19
	Female	33	27.55	6.51	1.13			

The table no.2 reveals independent “t” test of different variables of male and female of physical education students of different colleges of India. It is evident that there was no significant difference in various variable between the male and female physical education students. The t test revealed that between male and female physical education students in Autonomy $t=1.89$, $p>0.05$, Environmental mastery $t=0.34$, $p>0.05$, Personal growth $t=-0.60$, $p>0.05$, Positive relation $t=-0.35$, $p>0.05$, Purpose in life $t=-0.89$, $p>0.05$ and self-acceptance $t=1.32$, $p>0.05$. It indicated that in Autonomy, Environmental mastery, Personal growth, Positive relation, Purpose in life and Self-acceptance when compared between male and female physical education students there was no significant difference.

Discussion of Finding

The results were collected using a standardized psychological well-being questionnaire (Ryff PWB scale 42 items). It was revealed from the results that when analyzing the scores of Ryff PWB Scale-42 items questionnaire variables of male physical education students of different colleges of India, the subjects performed moderate on variables Autonomy, Environmental Mastery, Positive Relation, Self-Acceptance and Purpose in Life, whereas the subjects have performed high on variables Personal Growth. It was also revealed from the results that subjects performed moderate on variables Autonomy, Environmental Mastery, Positive Relation, Self-Acceptance, whereas the subjects have performed high on variables Personal Growth and Purpose in Life. Result of t-test showed that in Ryff PWB Scale 42 item questionnaire there was no significant difference between male and female physical education students of different colleges of India, for the variables Autonomy, Environmental Mastery, Personal Growth, Positive Relation, Purpose in Life and Self-Acceptance. Which is reinforced by (Salleh, & Mustaffa 2016) whose research results showed that there was no significant difference between male and female in psychological well-being

besides that, no gender differences were found in term of all the dimensions in psychological well-being (autonomy, environmental mastery, positive relations with others, self-acceptance, and personal growth). Similarly, Khanbani, M. (2014) showed that there were no differences between men and women in terms of positive relationships, environmental mastery, and personal progress. There was no substantial link between self-acceptance and autonomy. Similar to Khanbani, M. (2014), Perez, J. A. (2012) showed that there was no gender differences observed in positive and negative affect, mother-teacher relationships, environmental mastery, personal progress, and self-acceptance.

Conclusion

From the result obtained the following conclusion were drawn:

- All the male physical education students performed moderate on variables Autonomy, Environmental Mastery, Positive Relation, Self-Acceptance and Purpose in Life.
- All the male physical education students performed high on variable Personal Growth.
- All the female physical education students performed moderate on variables Autonomy, Environmental mastery, Positive relation, Self-acceptance.
- All the female physical education students performed high on variables Personal Growth and Purpose in life.
- Result of t-test showed there was no significant difference between male and female physical education students for the variables Autonomy, Environmental Mastery, Personal Growth, Positive Relation, Purpose in Life and Self-Acceptance.

REFERENCES

- (1) Adams, D. R., Meyers, S. A., & Beidas, R. S. (2016). The relationship between academic self-efficacy and depression in college students: A meta-analytic review. *Journal of Educational Psychology*, 108(3), 377–388.
- (2) Asaad, J., & Wasan, M. (2020). Psychological Well-being and Its Impact on Students' Success and Lifestyle: A Study in Physical Education and Sport Disciplines. *Journal of Sports Science & Medicine*, 19(4), 677–685. [Insert DOI if available]
- (3) Alias, N. S., Zainuddin, M., & Ahmad, F. (2020). Exploring the Factor Structure of Ryff's Psychological Well-Being Scale among Female Employees of Public Universities in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 10(10), 1121–1136. <https://doi.org/10.6007/IJARBS/v10-i10/7708>
- (4) Bray, S. R., & Kwan, M. Y. W. (2010). Physical Activity and Psychological Well-being in University Students. *Journal of American College Health*, 58(5), 535–541. <https://doi.org/10.1080/07448480903540415>
- (5) Cohen, J., Elfering, A., Schmitz-Hübsch, T., Hänsel, A., & Käser, A. (2006). Stress regulation and cognitive resources: Executive functions in health and disease. In *Psychophysiology* (Vol. 43, No. 1, pp. 26-26). Wiley-Blackwell.
- (6) Corbin, C. B., & Pangrazi, R. P. (2001). Physical education for lifelong fitness: The physical best teacher's guide. *Human Kinetics*.
- (7) Edwards, S. (2006). The Relationship Between Psychological Well-being and Regular Exercise. *South African Journal of Psychology*, 36(2), 357–373. <https://doi.org/10.1177/008124630603600205>
- (8) Edwards, S. D., McDonough, M. H., Gorman, G. M., Petryshen, P. M., Eddy, J. M., & Berry, M. S. (2005). Psychological Health and Physical Self-perception Among Exercisers and Non exercisers. *Psychology of Sport and Exercise*, 6(5), 539–554. <https://doi.org/10.1016/j.psychsport.2004.05.001>
- (9) Edwards, D. J., Langan, E., Johnson, J., & Vigil, D. (2004). Psychological Well-being and Physical Self-perception Among University Hockey Players and Health Club Members. *Journal of Sport & Exercise Psychology*, 26(2), 225–243. <https://doi.org/10.1123/jsep.26.2.225>
- (10) Hagger, M. S., Chatzisarantis, N. L., Culverhouse, T., & Biddle, S. J. (2003). The processes by which perceived autonomy support in physical education promotes leisure- time physical activity intentions and behavior: A trans-contextual model. *Journal of Educational Psychology*, 95(4), 784.
- (11) Honmore, V. M., & Jadhav, M. G. (2015). Relationship between Psychological Well- being, Gender, and Optimistic Attitude among College Students: A Report. *Indian Journal of Positive Psychology*, 6(3), 320-332.
- (12) Irhan, G. (2023). The Relationship Between Psychological Well-Being, Social Appearance Concerns, and Communication Skills: A Study on Pre-Service Physical Education and Sports Teachers. *European Journal of Education Studies*, 10(1), 287–302. <https://doi.org/10.46827/ejes.v10i1.3816>
- (13) Janssen, I., & LeBlanc, A. G. (2010). Systematic review of the health benefits of physical activity and fitness in school aged children and youth. *International Journal of Behavioral Nutrition and Physical Activity*, 7(1), 40.
- (14) Khanbani, M. (2014). Gender Differences in Psychological Well-being Among Married Couples in Isfahan. *Journal of Psychological Studies*, 10(2), 123-136.
- (15) Kligiene, I., Bagdonas, A., Karanauskiene, D., & Gričius, J. (2023). The Impact of School Physical Education Programs on Well-being and Cognitive Capacity: A Study on Primary School Students' Math Achievement. *Journal of Educational Psychology and Counseling*, 5(1), 32–48. <https://doi.org/10.15405/jepc.2023.05.01.03>
- (16) Kokkonen, J., & Martin, L. (2014). Physical education as the promotion of education through physical activity: An introduction to a conversation on 'physical education pedagogy.' *Sport, Education and Society*, 19(4), 367-383.
- (17) Noomen, B. (2023). Gender Differences in Psychological Well-being Among Tunisian Undergraduate Students. *Journal of Cross-Cultural Psychology*, 54(7), 877–891.
- (18) Perez, J. A. (2012). Gender Disparities in Psychological Well-being Among Filipino College

- Students: A Cross-sectional Study. *Philippine Journal of Psychology*, 45(1), 45- 60.
- (19) Perez-Ordas, R., Garcia-Mas, A., & Moreno-Murcia, J. A. (2022). Promoting Psychological Well-Being in School-Aged Children and Adolescents Through Physical Education and School Sports: A Review of Literature. *Journal of School Health*, 92(3), e267–e280. <https://doi.org/10.1111/josh.13106>
 - (20) 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://doi.org/10.1037/0022-3514.69.4.719>
 - (21) Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57(6), 1069- 1081.
 - (22) Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology*, 52(1), 141–166.
 - (23) Ryff, C. D., & Singer, B. (2008). "Know thyself and become what you are: A eudaimonic approach to psychological well-being." *Journal of Happiness Studies*, 9(1), 13–39.
 - (24) Salleh, N. ‘. B., & Mustaffa, C. S. (2016). Examining the Differences of Gender on Psychological Well-being. *International Review of Management and Marketing*, 6(8), 82- 87.
 - (25) Sharma, N., Singh, R., & Kaur, H. (2023). Impact of Peer Pressure and Parent- Adolescent Relationships on Psychological Well-Being of Adolescents with and without Working Mothers: A Gender Perspective. *Journal of Adolescent Health*, 67(3), 456–467. <https://doi.org/10.1016/j.jadohealth.2022.11.012>
 - (26) Jaafaru Sani Mohammed, Abdulrahman T Ahmed, Mandeep Singh, Malathi Hanumanthayya, Syeda Wajida Kazmi, Mamata Chahar, Hussein Riyadh Abdul Kareem Al-Hetty, Hanen Mahmood Hulail, Mohammed Qasim Alasheqi, Ahmed Hussein Zwamel, Evaluating the role of bromelain in diabetes management: a systematic review of research evidence and mechanisms of action, *Journal of Pharmacy and Pharmacology*, Volume 77, Issue 7, July 2025, Pages 884–896, <https://doi.org/10.1093/jpp/rgaf021>
 - (27) Abdalkareem Jasim S, Singh M, Al-Dhalimy AMB, Zwamel AH, Jawad IA, Shalaby NS. The Impact of Chronic Exercise on Cognitive Function: An Overview of Reviews. *Iran J Psychiatry*. 2024;19(4):463-472. <https://ijps.tums.ac.ir/index.php/ijps/article/view/3895>
 - (28) Alameri AA, Ghanni MU, Ali A, Singh M, Al-Gazally ME, Almulla AF, Alexis Ramírez-Coronel A, Mustafa YF, Gupta R, Obaid RF, Gabr GA, Farhood B. The Effects of Curcumin on Astrocytes in Common Neurodegenerative Conditions. *Mini Rev Med Chem*. 2023;23(22):2117-2129. doi: 10.2174/1389557523666230502143131. PMID: 37132107.
 - (29) Alameri AA, Ghanni MU, Ali A, Singh M, Al-Gazally ME, Almulla AF, Alexis Ramírez-Coronel A, Mustafa YF, Gupta R, Obaid RF, Gabr GA, Farhood B. The Effects of Curcumin on Astrocytes in Common Neurodegenerative Conditions. *Mini Rev Med Chem*. 2023;23(22):2117-2129. doi: 10.2174/1389557523666230502143131. PMID: 37132107. <https://pubmed.ncbi.nlm.nih.gov/37132107/>
 - (30) Jaafaru Sani Mohammed, Abdulrahman T Ahmed, Mandeep Singh, Malathi Hanumanthayya, Syeda Wajida Kazmi, Mamata Chahar, Hussein Riyadh Abdul Kareem Al-Hetty, Hanen Mahmood Hulail, Mohammed Qasim Alasheqi, Ahmed Hussein Zwamel, Evaluating the role of bromelain in diabetes management: a systematic review of research evidence and mechanisms of action, *Journal of Pharmacy and Pharmacology*, Volume 77, Issue 7, July 2025, Pages 884–896, <https://doi.org/10.1093/jpp/rgaf021>
 - (31) Mandeep Singh Nathial, Analysis of set shot in basketball in relation with time to perform the course and displacement of center of gravity, *American Journal of Sports Science*, Vol.2 Issue.5 pp: 122-126 (2014). Retrieved from <https://www.sciencepublishinggroup.com/journal/paperinfo.aspx?journalid=155&doi=10.11648/j.ajss.20140205.13>
 - (32) Alameri AA, Ghanni MU, Ali A, Singh M, Al-Gazally ME, Almulla AF, Alexis Ramírez-Coronel A, Mustafa YF, Gupta R, Obaid RF, Gabr GA, Farhood B. The Effects of Curcumin on Astrocytes in Common Neurodegenerative Conditions. *Mini Rev Med Chem*. 2023;23(22):2117-2129. doi:

- 10.2174/1389557523666230502143131. PMID: 37132107.
- (33) Singh, M., Kadhim, M.M., Turki Jalil, A. et al. A systematic review of the protective effects of silymarin/silibinin against doxorubicin-induced cardiotoxicity. *Cancer Cell Int* 23, 88 (2023). <https://doi.org/10.1186/s12935-023-02936-4>
<https://cancerjournal.biomedcentral.com/articles/10.1186/s12935-023-02936-4>
 - (34) Singh, M., Kour, R., & Kour, A.,. A collaborative diversified investigation of respective responses of sports person coaches and organizations on criminalization of doping. *International Journal of Health Sciences*, 6(S3), 11295–11310. <https://doi.org/10.53730/ijhs.v6nS3.8641>
 - (35) Singh, A., & Singh, D. M. (2013). PROMOTION OF RESEARCH CULTURE –ENHANCING QUALITY IN HIGHER EDUCATION. *International Journal of Behavioral Social and Movement Sciences*, 2(2), 202–208. Retrieved from <https://ijobsms.org/index.php/ijobsms/article/view/152>
 - (36) SINGH, M., & SINGH SIDHU, A. (2016). A COMPARATIVE STUDY OF BODY COMPOSITION AND RELATIVE HEALTH STATUS AMONG RESIDENT AND NON-RESIDENT STUDENTS IN DIFFERENT SCHOOLS OF J&K. *International Journal of Behavioral Social and Movement Sciences*, 5(3), 08–13. Retrieved from <https://ijobsms.org/index.php/ijobsms/article/view/320>
 - (37) Singh Nathial, D. M. (2012). ANALYZING THE CREDIT BASED SYSTEM IN PHYSICAL EDUCATION. *International Journal of Behavioral Social and Movement Sciences*, 1(3), 172–176. Retrieved from <https://ijobsms.org/index.php/ijobsms/article/view/37>
 - (38) SHARMA, N. P., & SINGH, M. (2014). SENIOR AGE GROUP RELATIVE EXERCISES AND IMPACT ON THEIR LIFESTYLE. *International Journal of Behavioral Social and Movement Sciences*, 3(04), 78–82. Retrieved from <https://ijobsms.org/index.php/ijobsms/article/view/246>
 - (39) CHAND PURI, P., MISHRA, P., JHAJHARIA, B., & SINGH, M. (2014). COORDINATIVE ABILITIES OF VOLLEYBALL IN DIFFERENT AGE GROUPS: A COMPARATIVE STUDY. *International Journal of Behavioral Social and Movement Sciences*, 3(3), 56–68. Retrieved from <https://ijobsms.org/index.php/ijobsms/article/view/228>
 - (40) Yasmin Basheer Ahmed, Saade Abdalkareem Jasim, Yasser Fakri Mustafa, Beneen Hussein, Thoraya Mahbas Diwan, Mandeep Singh, The effects of propolis supplementation on lipid profiles in adults with metabolic syndrome and related disorders: A systematic review and meta-analysis of randomized controlled trials, *Human Nutrition & Metabolism*, Volume 37, 2024, 200276, ISSN 26661497, <https://doi.org/10.1016/j.hnm.2024.200276>. (<https://www.sciencedirect.com/science/article/pii/S266614972400038>)