

The Role of Cultural Identity in the Relationship between Physical Exercise and Psychological Abnormality of College Students from the Perspective of Ideological and Political Education

Wei Chen¹, Lee Yok Fee², Anruo He³

Abstract

Ideological and political education (IPE) contributes to the efficacy of mental health education (MHE) for Chinese college students. This study aims to examine the function of cultural identity in the association between physical exercise (PE) and psychological abnormality among college students from the standpoint of IPE and PE. This study utilized a practical sampling strategy. The distribution of 1200 questionnaires to college students resulted in the recovery of 982 genuine surveys. Physical education and mental toughness are demonstrated to influence academic stress negatively. The cultivation period of the direct effect of physical education on higher education was not zero, indicating that the cultivation period was substantial. The psychological development period was not 0%, showing that emotional state had a major impact on physical education and educational stress and had a moderate influence. This study concluded that PE could promote and improve college students' mental health (MH). In addition, increasing national cultural identification can reduce the incidence of psychological disorders.

Keywords: Physical Exercise, National Cultural Identity, Psychological Abnormality, Academic Stress

1. Introduction

The influence of ideological and political education (IPE) is favorably connected with mental health (MH) education among college students (MHE). The core concept of IPE is "whole social development" (Yu & Chi, 2021). The college students' psychological education stage focuses mostly on enhancing students' self-awareness and developing their personalities of self-reliance and self-reliance, which plays an important part in psychological health education's leadership role (Ji & Zheng, 2021). IPE also mandates schools expand their investment in MHE and enhance their professional quality. In addition, the IPE model promotes the development of college students' mental health models. The mode of IPE encourages virtue-based thinking, which is crucial to the general development of college students and beneficial to implementing the mode of MHE for college students. This is extremely important for the entire MHE growth of college students. This is beneficial for MHE installation.

Different personalities exist among college students, making it important to enhance psychological guidance (Grubic, Badovinac, & Johri, 2020). So they can establish a proper perspective on the value of life. IPE comprises numerous components, and the backward teaching method cannot suit the needs of diverse students. Thus, the psychological guidance component can be employed to

initiate their education and guidance and subsequently to comprehend their innermost ideas. Particularly, it is necessary to strengthen guidance for students who typically speak less, make them aware of the significance of strengthening IPE for their future development, and then have them modify their educational outlook, adopt a healthy lifestyle, and collaborate with teachers to implement IPE (Conrad et al., 2021). Under the vision of IPE, the effectiveness of MHE in Chinese colleges and universities may be enhanced by giving IPE its primary role, bolstering the IPE team's building, and harmonizing the interaction between MHE's exclusivity and IPE's openness.

In the MHE of college students, it is required to play the primary function of "ideological and political" and to clarify its primary viewpoint. In this regard, it is necessary to enhance the subjective awareness of college students and use the "ideological and political" education platform to enhance their self-awareness in ideological and political practice. The curriculum focuses mostly on ideal and belief education, which helps foster a sense of social responsibility among college students. Based on this research, this study employs the meta-analysis method to conduct the research. It hypothesizes that physical activity (PE) can promote and improve college students' mental health. The method of exercise intervention is to control

¹ Universiti Putra Malaysia 43400 Serdang, Selangor, MALAYSIA/Zhaotong University, Zhaotong, 657000, CHINA

² Universiti Putra Malaysia 43400 Serdang, Selangor, MALAYSIA

³ Zhaotong University, Zhaotong, 657000, CHINA

*Corresponding Author: gs61985@student.upm.edu.my

the exercise cycle, frequency, duration, intensity, etc., proving that PE is the most evident way to promote and enhance college students' mental health. PE has a positive intervention effect on college students' mental health.

This study aims to analyze the role of cultural identity in the relationship between Physical Education (PE) and psychological abnormality among college students, from the standpoint of IPE, PE, using statistical evidence to support the literature critically. In addition, the discovery is significant from a theoretical standpoint, as no past studies have addressed the unexpected association discovered by this study. Thus, the research findings would be applicable to practice to enhance college students' psychological health. In addition, the paper outlines several future research possibilities for future researchers to pursue.

2. Literature Review

Currently, college students are under a great deal of pressure, including school pressure, family pressure, and social pressure, resulting in specific psychological issues. Teachers must take effective measures to increase their ideological education guidance to promote their students' healthy physical and mental growth. The psychological guidance element can strengthen students' resistance to pressure, allowing them to participate healthily in the ideological education process. Instructors should also play a functional role, consider issues from the students' point of view, and employ effective strategies to enhance their psychological education guidance (Orozco et al., 2021).

After a time of educational guidance, pupils will be able to receive improved IPE and develop their overall cultural and moral traits. Cultural identification refers to acknowledging a shared culture among individuals or groups. It is a subjective cognitive system comprised of relatively steady ideas and attitudes within a certain group. Lattie, Lipson, and Eisenberg (2019) discovered that cultural identification and MH correlate positively. On the other hand, sports are one of the mechanisms by which cultural identity is expressed. Many ethnicities and areas exhibit diverse sports cultures, which play a part in people's lives in terms of fitness value, mental health value, educational value, etc.

Grubic et al. (2020) showed that thorough research on the resilience of college students might disclose the complexities of their psychological development. People will certainly meet setbacks and difficulties throughout their lives and constantly be subject to pressure from all sides. With the evolution of society and the

strengthening of competitiveness, the strain on college students is increasing. Some college students can adjust to pressure and develop normally, while others cannot, resulting in psychological difficulties. Experience indicates that physical education might assist in developing psychological resilience and positive emotions in the era of big data. This study, therefore, employs computer technology and mathematical models to examine the relationship between college students' physical education, psychological resilience, and positive emotions to assist college students in developing healthy psychology.

Higher education causes mental and psychological stress by promoting leisure education-related elements (Conrad et al., 2021). Intermediate learning can boost students' abilities, activate their initiative and curiosity, and increase their learning efficiency (Guo et al., 2021; Kar, Bansal, & Mishra, 2021). Yet, the excessive study can easily lead to physiological issues such as hypertension and heart disease, as well as negative emotions such as anxiety, depression, and in extreme situations, suicidal thoughts. Being the foundation of national growth, college students' mental health is of concern. The rapid expansion of modern society has increased the pressure on college students, with higher education and college students' psychology constituting the core of this pressure. A study on the social factors influencing the physical and mental health of college students majoring in sports reveals that sixty percent of respondents believe that their education level significantly impacts their physical and mental health. Studies indicate that physical activity helps improve and reduce stress. Clinical investigations have demonstrated that regular PE can decrease the number or sensitivity of adrenergic receptors and decrease heart rate and blood pressure (Frederiksen et al., 2021).

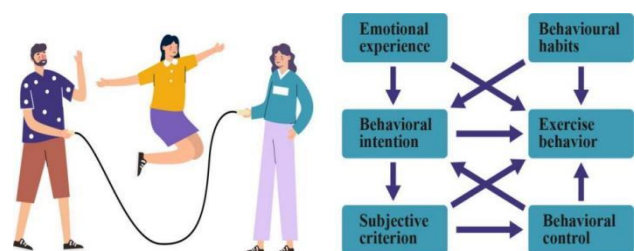


Figure 1. Study of physical activity behavior and psychological variables of college students

Physical education is more likely to enable people to recover from a depressed atmosphere than emotional and musical appreciation. Participation in either one-time or long-term sustained physical activity can dramatically ameliorate stress-related unpleasant feelings such as

anxiety and depression. Physical education is the primary component that influences and reduces MH, and higher education is the most influential aspect of MH among college students. Several studies examine the connection between physical education and higher education. [Figure 1](#) illustrates the MH issues of college students ([Wang et al., 2022](#)).

Currently, research on the relationship between physical activity and mental abnormalities focuses primarily on examining the differences in psychological outcomes caused by the varying intensities, frequencies, and durations of physical education, with only a few studies focusing on physical education as the carrier of national culture. The history of research on the impact of PE on MH is extensive ([Meda et al., 2021](#)). Few studies have examined how PE as a national cultural vehicle influences individuals' psychological status. The identification of cultural identity between individuals or between individuals and communities is called cultural identity. It is the wisdom of the people's tribes, which is rooted in religion and character and has remained consistent throughout history.

In a survey of 263 adolescents, [Schweda et al. \(2021\)](#) discovered a favorable relationship between cultural identity and psychological [Wang \(2021\)](#). On the other hand, sports are a means of expressing cultural identity, and different ethnic groups and areas exhibit distinct sports cultures that contribute to individuals' physical, mental, and educational development. In previous studies on physical and mental diseases, however, the significance of national culture has been overlooked. National culture will influence the two researched variables. It is unavoidable that a study on the relationship between physical fitness and mental abnormality that disregards national culture would be ambiguous ([Eisend, Evanschitzky, & Gilliland, 2016](#)). According to a national study of urban inhabitants, the detection rates of health risk stress and psychiatric illnesses were much higher among those aged 18 to 21 than those of other age groups.

There have been numerous achievements and breakthroughs to date. As a modern college student, you are responsible for the nation's future and destiny. The most recent poll reveals that 28% of college students believe they have psychological discomfort, 65% believe they have occasional psychological distress, 2% say they have no psychological distress, and 3% have not even examined this issue ([Fernandes et al., 2021](#)). Hence, researchers have paid considerable attention to PE as an effective mental health intervention for college students.

3. Research Methodology

3.1 Research subjects

In this study, 1200 questionnaires were distributed randomly to college students using a basic scale, and 982 valid questionnaires were returned for a recovery rate of 81.83 percent. 39.5% were male, and 58.7% were female, with a mean age of 20.211.1 years. The sports activity rating scale, psychological resilience scale, and college students' pressure scale were administered to 982 college students.

3.2 Criteria for inclusion and exclusion of documents

The inclusion criteria for the literature were randomized, controlled experiments evaluating the effect of PE on college students' mental health. The comparison of SCL-90 mean scores must comprise nine variables, including somatization, compulsion, interpersonal relationship, sadness, anxiety, hostility, fear, paranoia, and psychosis. Included are the sample size, standard deviation, and mean value. In addition, the exclusion criteria were as follows: title: "the research object is not college students; only PE or MH" and abstract: "PE and MH are not applied, discussed, and analyzed in combination; there are no clear research outcomes."

3.3 Research tools

The sports performance index (par - 3) was developed to evaluate the athletic ability of college students. The scale has three dimensions: exercise intensity, duration, and frequency. Using a 5-point Likert scale, the fitness score is calculated as $\text{fitness score} = \text{intensity} \times (\text{Time} - 1) \times \text{Frequency}$; the higher the score, the greater the fitness score. The rating criteria are little exercise 19, moderate exercise 20 to 42, and major exercise ≥ 43 . In this study, the retest reliability of this scale is 0.845. The Mental Resilience Scale for Youth, Developed by [Pehoiu and Savu \(2017\)](#), assesses college students' mental health. The scale consisted of 27 questionnaires, separated into two-second types: self-efficacy, which included target concentration, control concentration, and proficiency, and to promote quality, which included family support and self-help. The scale uses the 5-point Likert scale. A 6-point Likert scale assesses national cultural identity (1 is very inconsistent, and 6 is very consistent).

The alpha coefficient of the question is 0.9172, while the alpha coefficients of the four dimensions are 0.8671, 0.8581, 0.7817, and 0.7167, respectively. Thus, the questionnaire has an adequate level of dependability. The [Bhutada \(2020\)](#) examines psychiatric abnormalities via group testing. Somatization, obsessive-compulsive symptoms, interpersonal disorders, sadness, hostility, fear, paranoia, and psychosis were included on the SCL-90 scale.

Cronbach's alpha coefficient of reliability for the research of Chinese college students ranges between 0.6346 and 0.85, and its validity is assured. The Academic Annoyance, sub-scale of the College Student Stress Scale, established by Vaara, Tienari, and Koveshnikov (2021). This subscale consists of ten questions rated on a 4-point Likert scale, with higher scores indicating greater academic pressure. In this study, the retest reliability of this scale is 0.901%.

3.4 Statistical methods

The programs SPSS 24.0 and AMOS 26.0 are utilized for statistical analysis of the data. This comprises reliability tests for each scale, descriptive statistics for each variable, Pearson correlation analysis, analysis of variance, and study of the mediating effects of mental toughness utilizing the Bootstrap method test in AMOS (Baeriswyl, 2021). Following the requirements of this study, the remaining publications were examined many times, and the author, publication date, mean, standard deviation, sample size, exercise frequency, exercise duration, and exercise cycle were retrieved and entered.

4. Research Results

4.1 Correlation between physical exercise, national cultural identity, and psychological abnormality

Cultural identity is a form of "self-identification" because of the following factors: First, the spiritual connotation of

culture corresponds to the construction of the life meaning of human existence, and its ethical connotation makes a valuable argument for human existence, which is a dimension that political identity, social identity, and so on lack - they correspond more to the surface of human existence, and cannot support the individual's confirmation of existence and existence value. Second, culture is a type of "root" that predates particular individuals. It builds a particular "prototype" for individual spiritual structure in the form of a "collective subconscious" via the inheritance of national features. Table 1 displays the results of calculating the link between time spent on PE, national cultural identification, and psychological disorder using Pearson correlation (one-tailed).

Table 1 reveals a positive link between the time spent on physical education and national cultural identification ($r=0.40$, $p<0.01^{**}$), indicating that the longer the time spent on PE, the stronger his national cultural identity. Except for the minor link with paranoia, exercise length is significantly inversely correlated with all other dimensions of psychological abnormality; this indicates that the longer the exercise duration, the less apparent the influence of abnormal behavior. There is a negative link between the total score of mental disorders and the individual's ethnicity. Hence, the lower the psychological abnormality score, the greater the national cultural identity score.

Table 1

Correlation between physical exercise, national cultural identity, and psychological abnormality

		2	3	4	5	6	7	8	9	10	11	12
1	National tradition	0.40**	0.26**	-0.23*	-0.25**	-0.21*	-0.36**	-0.23*	-0.24**	-0.04	-0.22*	-0.38**
2	Identity	/	-0.43**	-0.28**	-0.41**	-0.26**	-0.37**	-0.37**	-0.39**	-0.42**	-0.18*	-0.58**
3	Somatization	/	/	0.22*	0.34**	0.27**	0.39**	0.52**	0.43*	0.30**	0.30**	0.70**
4	coercion	/	/	/	0.22*	0.22*	0.30**	0.33**	0.28**	0.15	0.18*	0.53**
5	Interpersonal sensitivity	/	/	/	/	0.36**	0.40**	0.25**	0.30**	0.45**	0.33**	0.68**
6	Depression	/	/	/	/	/	0.16	0.14	0.15	0.25**	0.22*	0.50**
7	Anxiety	/	/	/	/	/	/	0.32**	0.31**	0.143	0.30**	0.64**
8	Hostility	/	/	/	/	/	/	/	0.39**	0.26**	0.23*	0.63**
9	Terror	/	/	/	/	/	/	/	/	0.21*	0.10	0.62**
10	Paranoia	/	/	/	/	/	/	/	/	/	0.20*	0.55**
11	Mental illness	/	/	/	/	/	/	/	/	/	/	0.53**
12	Total Score											

$p<0.05^*$, $p<0.01^{**}$

Table 1 indicates that, except for the non-significant correlation with paranoia, exercise time has a significant negative correlation with other dimensions of mental abnormalities, indicating that the longer the exercise

duration, the less pronounced the manifestation of abnormal mental behavior. The multi-factor analysis of variance was utilized to investigate the association between the cultural attribute of PE and psychological disorders.

The results indicated that the main effect of the cultural attribute of PE was highly significant. In contrast, the amount of exercise and the interaction between the cultural attribute of exercise and the amount of exercise were not. This study employed multivariate covariance analysis to determine whether cultural identity influences the relationship between exercise cultural traits and psychological disorders. The findings demonstrated that physical activity and cultural identity had substantial predictive effects on the interaction of MH.

4.2 Control and inspection of common method deviation

The curriculum of this study is centered on college students' self-education. This study did a qualitative examination of standard deviation to circumvent the problem of standard deviation (CMV). Using the Harman single-factor approach, the spatial structure of the data collected by anonymous measurement, a portion of the inverse, and other parameters was measured.

4.3 Effects of physical exercise and mental toughness on college students' academic stress

All three variables were subjected to a bivariate Pearson correlation analysis; descriptive statistics and analytical

results for each variable are presented in Table 2. Physical education has a considerable association with mental health, as shown in Table 2, + physical education is closely related to higher education, and mental health is closely related to higher education.

Table 2

Descriptive statistics and correlation analysis of each variable

Variables	M	SD	1	2	3
Physical exercise	15.27	17.45			
Academic pressure	2.41	0.67	-0.115*		
Mental Toughness	3.12	0.38	0.175***	0.139**	

To observe the influence of PE on the mental health and stress levels of college students in a clear and precise manner, we calculated the mean levels of mental health and learning stress. The impact of learning anxiety was investigated. Table 3 demonstrates that when the intensity of PE grows, so does the mental health of college students and their educational attainment. The mental state of the middle and large exercise groups was significantly superior to that of the small exercise group, and the amount of learning stress was significantly lower than that of the small exercise group.

Table 3

Results of different evaluations on the effects of physical exercise on college students' mental health and learning anxiety

Variables	Small	Medium	Large	F	p
Mental Toughness	3.10±0.39	3.17±0.30	3.24±0.54	4.536	<0.05
Academic pressure	2.47±0.67	2.32±0.67	2.27±0.68	4.197	<0.05

4.4 The mediating role of mental toughness

This study uses the corrective bias percentage Bootstrap method to measure the role between college students' psychological state of PE and academic anxiety. First, the relationship of variables was tested by regression analysis. The results in Table 4 indicate that PE can negatively predict academic stress ($\beta=-0.115$, $p<0.05$); PE can positively predict mental toughness ($\beta=0.175$, $p<0.001$);

and when the regression analysis is conducted for PE and mental toughness simultaneously, PE ($\beta=-0.144$, $p<0.01$) and mental toughness ($\beta=-0.164$, $p<0.01$) have a negative predictive effect on academic stress. Subsequently, a bias-corrected non-parametric percent Bootstrap test with 5000 replicate samples tests for mediating effects and estimates confidence intervals. If the 95% confidence interval does not contain 0, it indicates a significant direct or indirect effect.

Table 4

Assessment of the correlation between different sources

Regression equation		Overall fit index			Significance of regression coefficients	
Result variables	Predictive variables	R	R2	F	β	t
Academic pressure	Physical exercise	0.115	0.013	5.458	-0.115	-2.336*
Mental toughness	Physical exercise	0.175	0.031	12.72	0.175	3.567***
Academic pressure	Physical exercise	0.199	0.039	8.283	-0.144	-2.907**
	Mental toughness				-0.164	3.313**

The results of [Table 5](#) indicate that the dependability of the direct impacts of physical education on higher education does not contain 0% (95% ci: -0.231 to 0.051), indicating that the reliability is substantial. The psychological

development time (95% ci: -0.171, -0.031%) was not 0%, indicating that the emotional state substantially impacted physical education (PE) and educational stress and played an average role.

Table 5

Analysis of mediating effects of mental toughness

Effect	Paths	Effect Value	Bootstrap SE	95% confidence interval		Effectiveness share (%)
				Lower limit	Upper limit	
Direct effect	Physical exercise - academic stress	-0.088	0.071	-0.231	-0.051	48.62
Indirect effect	Physical exercise - Mental toughness - Academic stress	-0.093	0.036	-0.171	-0.031	51.38
Total effect		-0.181	0.064	-0.304	-0.054	100

5. Discussions

Thus, to truly value society's ideological and moral construction, it is necessary to value the nurturing of individuals' personalities truly. Family, schools, and society all need to view this. Yet, in the past, ideological and political work frequently focused on positive and explicit teaching and exterior indoctrination. It rarely delved deeper into personality and human psychology, causing ideological and political work to lose its daily and unnoticeable impact. Thus, it is essential to make major changes to the methods of personality formation and ideological and moral education and to maximize the benefits and advantages of IPE. The results of this study indicate that sports activities have a negative association with the quality of higher education, and the direct effect is considerable, indicating that sports activities have a strong direct effect on higher education based on prior research.

Physical education aims to calm the body and mind and relax the mind. Appropriate PE helps alleviate mental tension and stress, sustaining physical and mental enjoyment ([Murad, Malik, & Ullah, 2022](#)). Physical education plays a good effect in regulating bad conduct, and negative emotion-based higher education can be minimized by physical education ([Al-Hammadi, 2021](#)). Physical education can generate a rich emotional experience. Even if an individual begins physical education with negative emotions, the physical activity during the exercise can increase the production and release of endorphins and reduce hormones such as adrenaline and cortisol, which can promote positive emotional experiences and enable the catharsis and digestion of negative emotions, thereby reducing the stress experienced by college students during the study process. Long-term

and continuous exercise has been demonstrated to reduce mental stress, and moderate and high-intensity exercise that lasts at least 30 minutes three times per week is the most effective strategy for reducing stress ([Yang et al., 2021](#)). This study investigates the connection between the value of physical education and the stress of learning. Consistent with prior research, the results indicate that the level of learning anxiety among college students with intermediate and high employment is low. He claimed that middle- and long-term sports participation could lessen college students' learning anxiety ([Wang, 2021](#)).

This study examines all three simultaneously and studies in depth the inner mechanism of PE's effect on academic stress, indicating that PE significantly enhances college students' mental toughness and reduces their academic stress. Individual mental toughness is ascribed to the active role of protective factors, and physical education is a protective factor that facilitates the growth and enhancement of mental toughness. Physical education can strengthen one's willpower and increase college students' attention orientation, cognitive function, and emotion control, all of which are intrinsic formation components of college students' mental toughness. People's ability to manage stress can be diminished if they are irrational, anxious, or agitated and have low motivation. This study demonstrates that a sense of control and worth are essential internal variables for reducing personal risks. Sports can enhance these resources, contributing to the individual's psychological quality. According to past research, this study demonstrates that mental fortitude can negatively affect academic stress.

The process model of mental toughness demonstrates that persons in a state of "physical, mental, and spiritual homeostasis" mobilize numerous protective elements to withstand stress to sustain physical, mental, and spiritual

balance. Mental resilience is a protective resource for individuals, and college students with strong mental resilience levels can activate more internal mechanisms to alleviate and discharge academic stress. The high standard technique demonstrates that the significance of high discharge is related to resource development. The regular physical activity enables college students to obtain more internal resources in academic activities and adversity, improve mental toughness in coping with imbalances such as academic stress, relieve college students' academic stress, and bring college students' minds, bodies, and spirits into a new balance, which in turn promotes college students' mental health (MH) (Owens, 2021). In addition, the results of this study indicate a correlation between physical education level and mental health level and that there is a correlation between physical education level and mental health level among middle school and college students. In conclusion, when physical education attains intermediate to high levels, the direct impact of physical education on higher education or mental health on higher education will be at its peak.

6. Conclusion, Theoretical and Practical Implications

By promoting the reform of IPE, supplementing the content of quality education, enhancing the quality of education standards, implementing the psychological education system, and strengthening the guidance of psychological education for college students, this research will improve the imbalance of traditional teaching and the ideological and political quality of students, in addition to enhancing psychological education guidance for college pupils. In the course of IPE, kids can expend sufficient energy to participate in other educational activities with high mental acuity, promoting the growth of education in a healthy manner.

Theoretically, this study has stated in the literature that physical education can directly affect college students' learning abilities. At the same time, psychology plays a significant part in both physical education and higher education. In addition, this study revealed that PE could

directly alter the learning pressure, as well as indirectly lessen the learning pressure by influencing the primary function of MH. Thus, the gaps in the research are filled by this study's emphasis on the fact that the negative psychological markers of college students are mitigated by a longer duration of participation in PE, thereby enhancing their psychological health. According to the study, college students can engage in physical activity by playing basketball, football, volleyball, badminton, other ball games, running, and other sports. Similarly, our study has contributed greatly to the literature by demonstrating that scientific and rational PE can benefit health comprehensively.

This study demonstrated that college students could improve their mental health through physical activity, typically running and push-ups. This not only meets the goal of strengthening the body but also, to a certain extent, strengthens their willpower, which is also of vital importance for MH. The findings of this study can be utilized considerably in China to emphasize the significance of physical activity in enhancing students' mental and psychological health. This study has significant practical consequences that contribute to the body of knowledge.

7. Future Directions

The examination of the subjects' cognitive abilities is disregarded in this investigation of national cultural identity. Since cognitive ability substantially affects the perceived degree of cultural identity and the level of cognitive ability influences the potential of examining the interaction of subject factors, future research should incorporate cognitive ability. As mentioned previously, by giving full play to the role of the ideological and political subjects, bolstering the construction of the IPE team, and coordinating the relationship between the exclusiveness of MHE and the openness of IPE, the effectiveness of MHE in China's colleges and universities from the perspective of IPE can be significantly enhanced, thereby contributing to the holistic and sustainable development of Chinese college students.

References

- Al-Hammadi, M. I. (2021). The Presentation of Trauma in Museums: The Museum of the Occupation of Latvia and the National Museum of Qatar as Case Studies. *Open Journal of Political Science*, 11(4), 569-593. <https://doi.org/10.4236/ojps.2021.114037>
- Baeriswyl, M. V. C. (2021). Restorations in Chile in the Mid-Twentieth Century: The National Monuments Council and Some of the First Architectural Heritage Interventions. *IOP Conference Series: Materials Science and Engineering*, 1203(2), 022002. <https://doi.org/10.1088/1757-899X/1203/2/022002>

- Bhutada, R. S. (2020). The role of physical exercise and diet in management of medoroga (Sthaulya) reference novel coronavirus covid 19. *International Journal of Research in Pharmaceutical Sciences*, 11(Special Issue 1), 1585-1592. <https://doi.org/10.26452/ijrps.v11iSPL1.3793>
- Conrad, R. C., Koire, A., Pinder-Amaker, S., & Liu, C. H. (2021). College student mental health risks during the COVID-19 pandemic: Implications of campus relocation. *Journal of Psychiatric Research*, 136, 117-126. <https://doi.org/10.1016/j.jpsychires.2021.01.054>
- Eisend, M., Evanschitzky, H., & Gilliland, D. I. (2016). The influence of organizational and national culture on new product performance. *Journal of Product Innovation Management*, 33(3), 260-276. <https://doi.org/10.1111/jpim.12268>
- Fernandes, E. V., Carmona, L. F., Ferreira, M. C. B., Machado, F. A., Balarin, M. R. S., Ramos, S. d. P., Estanislau, C., & Venancio, E. J. (2021). Impact of interaction between chronic variable stress and moderate intensity physical exercise on antibody production in Wistar rats. *Indian Journal of Experimental Biology (IJEB)*, 59(06), 406-414. <https://doi.org/10.56042/ijeb.v59i06.51869>
- Frederiksen, K. P., Stavestrand, S. H., Venemyr, S. K., Sirevåg, K., & Hovland, A. (2021). Physical exercise as an add-on treatment to cognitive behavioural therapy for anxiety: a systematic review. *Behavioural and Cognitive Psychotherapy*, 49(5), 626-640. <https://doi.org/10.1017/S1352465821000126>
- Grubic, N., Badovinac, S., & Johri, A. M. (2020). Student mental health in the midst of the COVID-19 pandemic: A call for further research and immediate solutions. *International Journal of Social Psychiatry*, 66(5), 517-518. <https://doi.org/10.1177/0020764020925108>
- Guo, Q., Zhang, W., Gou, X., Li, B., Yang, C., & Yang, A. (2021). Research on Parameter System Identification Characteristics of Physical Exercise Population in Gansu Province Based on Walking and Taijiquan. *IOP Conference Series: Earth and Environmental Science*, 632(3), 032048. <https://doi.org/10.1088/1755-1315/632/3/032048>
- Ji, H., & Zheng, C. (2021). The influence of physical exercise on college students' mental health and social adaptability from the cognitive perspective. *Work*, 69(2), 651-662. <https://doi.org/10.3233/WOR-213506>
- Kar, S. K., Bansal, R., & Mishra, S. (2021). Variation in Brand Valuation: Indian IT Services Brands. *Sanjay Kumar Kar, Rohit Bansal, Saroj Mishra*, 5. http://www.ijcases.com/search/variation_case
- Lattie, E. G., Lipson, S. K., & Eisenberg, D. (2019). Technology and college student mental health: challenges and opportunities. *Frontiers in psychiatry*, 10, 246. <https://doi.org/10.3389/fpsy.2019.00246>
- Meda, N., Pardini, S., Slongo, I., Bodini, L., Zordan, M. A., Rigobello, P., Visioli, F., & Novara, C. (2021). Students' mental health problems before, during, and after COVID-19 lockdown in Italy. *Journal of Psychiatric Research*, 134, 69-77. <https://doi.org/10.1016/j.jpsychires.2020.12.045>
- Murad, M., Malik, A. A., & Ullah, M. I. (2022). Regulating Students Behavioral Emotions: The Mediating Role of Intention and Perceived Belief Control. *Review of Applied Management and Social Sciences*, 5(3), 423-435. <https://doi.org/10.47067/ramss.v5i3.258>
- Orozco, C., González-Giraldo, Y., Bonilla, D. A., & Forero, D. A. (2021). W17. Computational Analysis of Genome-wide Expression Studies of the Effects of Physical Exercise in Humans: Implications for Mental Health. *European Neuropsychopharmacology*, 51, e156. <http://dx.doi.org/10.1016/j.euroneuro.2021.08.109>
- Owens, J. (2021). Parental intervention in school, academic pressure, and childhood diagnoses of ADHD. *Social Science & Medicine*, 272, 113746. <https://doi.org/10.1016/j.socscimed.2021.113746>
- Pehoiu, C., & Savu, C. F. (2017). Study on the Importance of Physical Exercise in the Recovery and Social Integration of Pupils with Special Needs. In *4th Central and Eastern European LUMEN International Scientific Conference on Education, Sport and Health* (pp. 166-167). Iași, România: LUMEN Conference Center. https://ibn.idsi.md/vizualizare_articol/69907
- Schweda, S., Janßen, P., Sudeck, G., Burgstahler, C., Nieß, A., & Krauss, I. (2021). Physical exercise promotion and related health benefits for people with knee osteoarthritis and additional other chronic non-communicable diseases: a pilot study. *Osteoarthritis and Cartilage*, 29, S384-S385. <https://doi.org/10.1016/j.joca.2021.02.499>
- Vaara, E., Tienari, J., & Koveshnikov, A. (2021). From cultural differences to identity politics: A critical discursive approach to national identity in multinational corporations. *Journal of Management Studies*, 58(8), 2052-2081. <https://doi.org/10.1111/joms.12517>
- Wang, N. (2021). *The Impact of Posttraumatic Stress Disorder on Psychological Well-Being and Posttraumatic Growth among Chinese Adolescents: The Role of Trauma Centrality, Emotion Regulation and Attachment*. (Doctoral dissertation). The Chinese University of Hong Kong (Hong Kong). <https://www.proquest.com/openview/d65235b4de0db8b9526abae97da6cd09>

- Wang, Y.-H., Zhou, H.-H., Nie, Z., & Cui, S. (2022). Prevalence of Achilles tendinopathy in physical exercise: a systematic review and meta-analysis. *Sports Medicine and Health Science*, 4(3), 152-159. <https://doi.org/10.1016/j.smhs.2022.03.003>
- Yang, M., Ma, Y., Liu, Z., Cai, H., Hu, X., & Hu, B. (2021). Undisturbed mental state assessment in the 5G era: a case study of depression detection based on facial expressions. *IEEE Wireless Communications*, 28(3), 46-53. <https://doi.org/10.1109/MWC.001.2000394>
- Yu, Y., & Chi, X. (2021). Monitoring and management system for college students' extracurricular physical exercise based on artificial intelligence. *Journal of Intelligent & Fuzzy Systems*, (Preprint), 1-10. <https://doi.org/10.3233/JIFS-219136>