



**HJRS Link:** [Journal of Academic Research for Humanities JARH \(HEC-Recognized for 2023-2024\)](#)

**Edition Link:** [Journal of Academic Research for Humanities JARH, 3\(4\) October-December 2023](#)

**License:** [Creative Commons Attribution-Share Alike 4.0 International License for JARH](#)

**Link of the Paper:** <https://jar.bwo.org.pk/index.php/jarh/article/view/374>

## MEASURING THE EFFECT OF MOTIVATION AND OTHER FACTORS ON SPORTS PARTICIPATION IN ATHLETES OF A PAKISTANI UNIVERSITY

Author 1:	<b>JUNAID UR REHMAN</b> , Assistant Professor, Department of Physical Education, Government Sadiq Egerton Graduate College, Bahawalpur, Pakistan. Email: <a href="mailto:junaidscout67@gamil.com">junaidscout67@gamil.com</a>
Corresponding & Author 2:	<b>SYEDA QURAT UL AIN</b> , MPhil Scholar, Department of Physical Education & Sports Sciences, the Islamia University of Bahawalpur, Pakistan Email: <a href="mailto:aniee750@gmail.com">aniee750@gmail.com</a>
Author 3:	<b>DR. MUHAMMAD BADAR HABIB</b> , Associate Professor, Department of Physical Education & Sports Sciences, the Islamia University of Bahawalpur, Email: <a href="mailto:badar.habib@iub.edu.pk">badar.habib@iub.edu.pk</a>

### Paper Information

#### **Citation of the paper:**

(JARH) Rahman, J. U., Ain, S. Q., Habib, M. B., & Asghar, A. (2023). Measuring the Effect of Motivation and Other Factors on Sports Participation in Athletes of a Pakistani University. *In Journal of Academic Research for Humanities*, 3(4), 217–226.

#### **Subject Areas for JARH:**

- 1 Humanities
- 2 Physical Education & Sports Sciences

#### **Timeline of the Paper at JARH:**

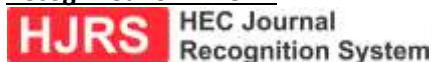
Received on: 08-12-2023.  
Reviews Completed on: 24-12-2023.  
Accepted on: 24-12-2023.  
Online on 25-12-2023.

#### **License:**



[Creative Commons Attribution-Share Alike 4.0 International License](#)

#### **Recognized for BWO-R:**



#### **Published by BWO Researches INTL.:**



### Abstract

This study aimed to measure the effect of motivation and other factors on sports participation in athletes at a Pakistani university. A total of 350 questionnaires were distributed to athletes of the Islamia University of Bahawalpur athletes who engaged in various sports. The Google Form online survey questionnaire was used to ask questions on motivation and other factors. The PALMS, AFAQ, and other factors were used to examine the relationship between motivation and other factors of sports participation. The researcher double-checked the questionnaire to ensure that the respondents had responded to every question before analyzing the data. Correlation and multiple hierarchical regression analysis were applied using SPSS version 25.0. The results show that two motives, psychological condition, and mastery were entered in step 2, and two motives, psychological condition, mastery, and enjoyment were entered in step 3. In step 2 the model explains 19% variance with  $F=70.68$ ,  $p<.01$  for AFAQ. In this model psychological condition was found to be a significant predictor of AFAQ, in step 3. The modal explains 22% of the variance in AFAQ, with  $F=42.96$ ,  $p<.01$ . This research explores how motivation has influenced athletes in participating in sports activities at universities. The finding of the study demonstrated that athletes are "intrinsically motivated" to put forth great effort in their pursuit of skill mastery and are driven to succeed by their internal motivation. The high-quality facilities and equipment, creating a supportive social environment, and promoting a positive cultural attitude towards sports can also be effective strategies to increase PA participation.

**Keywords:** Motivation, PALMS, AFAQ, athletes, injury,

## Introduction

Sports participation can help students in a variety of ways with their personal development to improve their motor abilities, meet new people, and maintain a healthy lifestyle (Haywood & Getchell, 2021). To maintain good health, one must engage in regular physical activity (PA) (Jaydari Fard., Tahmasebi Boroujeni., & Lavender, 2019). The athletes within Pakistani Universities are affected by so many factors for not participating in sports and fear of injury is one of them. Injured athletes experience a broad spectrum of emotions, from worry and panic to rage and frustration, among others. There is also a link between the severity of an injury and an athlete's level of depression, indicating that certain athletes are more prone to depression than others. Athletes' perceptions and actual recuperation are influenced by the emotional components of an injury experience (Clement., Arvinen-Barrow., & Fetty, (2015). Deci & Ryan (2013) are credited with creating the notion of self-determination theory in their book, self-determination is a theory of motivation that has been useful in many life domains such as health, sport, education, and work. Health is an intrinsic goal for us all that is strongly influenced by our daily habits and lifestyle. The theory of motivation is based on the idea that people are generally motivated by the wish to achieve success and satisfaction. Deci & Ryan (2013) also suggest that a person's intrinsic motivation can be boosted by unexpected positive reinforcement and constructive criticism of their task performance. The study by Habib, Khoo & Morris (2022) explains Positive feedback has been shown to increase motives and PA among Pakistani adults. The mental well-being of an individual is equally as important as the physical when it comes to learning how self-sufficiency can help them achieve independence. When a person exercises his or her will and takes charge of his or her own

life, that person takes on responsibility for and possibly even guilt for the results (Habib, Khoo & Morris, 2022). According to Badami et al. (2011), sports participation and an active lifestyle with motivation are key aspects of maintaining their physical and psychological health. Student participation in sports activities is motivated by a variety of reasons that include a desire to improve one's well-being as well as an interest in increasing one's physical fitness (Alam, 2022). Despite this, data shows that there are gender disparities and that female students are motivated by external factors, such as body image and weight control. Student motivation for participating in physical activity and sports should be assessed since it is a key indication of future exercise behavior (Alam, 2022). Moreover, it has been suggested that physical inactivity increases within a growing age, particularly having higher rates in women and developed countries (Guthold, et al. 2020).

## Literature Review

The study of Bavaresco, et al. (2022) describes University students going through a transitional period marked by increased stress and susceptibility to lifestyle changes. A considerable reduction in PA is said to start at the age of 12, and many students will fail to become active in the future. Male undergraduates in Pakistan were the least active at 16%, while females were the least active at 34% (Ullah, et al. 2021). Even though playing sports has many positive effects on one's physical, mental, and behavioral health, it is crucial to emphasize PA and sports participation because these activities improve one's perception of one's body and promote positive anthropometric traits. Studies demonstrating the health advantages of sports, it appears that engaging in competitive sports increases the chance of injury, which is most frequently musculoskeletal (Goes, et al. 2020). It is explained by Berns, et al. (2016) that when

someone is driven by internal factors, they are not considering the needs of others when making decisions. Those who are intrinsically motivated get their drive from inside, rather than from external sources like rewards or pressure. However, it does not appear that these behaviors are conducted for the sake of the organism, but rather for the sake of the pleasure associated with deliberate practice and the development of skills (Vink, Raudsepp, & Kais, 2015). One must find their drive. A desire for alteration, whether of one's external circumstances or one's internal disposition, is at the heart of what we mean when we talk about motivation. When harnessed, motivation provides the impetus and purpose that enables people to engage with the world in a way that is flexible, exploratory, and problem-solving (Vink, Raudsepp, & Kais, 2015).

#### **Problem statement**

The study demonstrates that some people have low self-efficacy in sports and a lack of confidence in the outcomes of participation in sports, which results in a lack of motivation to engage in sports (Bondár, et al. 202). There are several studies on the impact connection between variables in the research on the effect mechanisms of sports participation, but there are a small number of studies on the impact association between the variables under the unified framework. As a result, it is imperative to investigate the interaction among the elements that affect sports participation using a consistent approach. There is a gap in this research that demonstrates that students have low self-efficacy in sports and a lack of confidence in the outcomes of participation in sports, which results in a lack of motivation to engage in sports. It is Therefore more studies needed to understand the effect of motivation and its type's intrinsic motivation and extrinsic motivation and other factors on sports participation in athletes of Pakistani universities.

#### **Significance of the Study**

Lack of physical activity has been related to several illnesses, including obesity, cancer, social anxiety disorder, and depression. Academic achievement, social peace, and mental health in kids and teens have all been related to physical activity. The possibility of longer life expectancy, and healthier lives has also been demonstrated to increase physical activity in adults and the elderly, with variable impacts. The research on physical activity has received substantial documentation worldwide, however Pakistan still lacks information. To identify research gaps that can be filled to increase physical activity in Pakistani society, research on physical activity among teenagers, college, and university students, as well as adults, is meant to be described in this research study. In addition, a study will be done to determine the variables and factors that are the primary reasons why athletes at Pakistani colleges choose not to participate in athletic events, as well as how motivation influences this choice. The existing system, prospective issues, and potential solutions for Pakistani youth, college students, university students, and adults will be the main subjects of this study.

#### **Research Objectives**

To find out what influences' Pakistani university students' engagement in organized sports at Pakistani institutions. Along with that, the study aims to find out whether students' confidence in participating in athletic activities in Pakistani universities is influenced by their fear of injury, negative feelings, and pain catastrophizing or not. The purpose of this study is to learn more about the elements that have an impact on university players' decision to participate in sports.

- To measure how motivation has influenced athletes in participating in sports activities at universities.

- To find out whether mental exhaustion affects university students' performance and involvement in sports activities.

### **Research Questions**

- How motivation is the reason behind the participation of athletes in sports activities in universities and fear of being injured in sports and mental fatigue are barriers to athletes who want to participate in sports activities in universities?
- What is the role of student academic involvement in influencing sports in Pakistan's public and private sector institutions?
- What are the differences in academic involvement of students at public and private universities that influence organized sports programs based on gender?

### **Research Methodology**

#### **Research Design**

This research was evaluated using a quantitative technique. Quantitative approaches for data collection and evaluation are built on many kinds of mathematical analysis and statistics. The goal of quantitative research is to quantify the data collection and processing process. It is based on a deductive method that emphasizes the validation of a hypothesis and is influenced by positivist and empiricist theories.

#### **Population and Sampling**

The students of the Islamia University of Bahawalpur were the participants of the study. The sample size was calculated using an online Statistical Calculator ([www.danielsuper.com](http://www.danielsuper.com)) based on required effect size ( $f^2=0.03$ ), statistical power is 0.80 or 80 for correlation. The minimum number of predictors is 15 and the significance level is 0.05. Required Sample The size for this study was 350 ([Soper, 2020](#)).

#### **Measures**

The demographics, PALMS, AFAQ, and Other Factors were measured by the participants. To assimilate the affective facets of personality, trait emotional intelligence (trait EI) refers to a constellation of emotional self-

perceptions found at the lowest levels of personality classifications.

#### **Demographic**

We asked participants to provide demographic information related to gender, age, academic qualifications, experience in PA, type of sports and PA in which they participated at the time of the study, and number of days of the week in which they engaged in PA.

#### **Physical Activity and Leisure Motivation Scale (PALMS; Morris & Rogers, 2004)**

The Physical Activity and Leisure Motivation Scale ([PALMS; Morris & Rogers, 2004](#)) was designed to measure motivations for regularly engaging in physical activity. PALMS were created to measure motivation associated with PA. The PALMS contains 40 items that evaluate eight factors (mastery, physical condition, psychological condition, affiliation, attractiveness, enjoyment, competition/ ego, and others' experiences) that motivate people to engage in physical activity. The PALMS scale runs from 1 (strongly disagree) to 5 (completely agree) (strongly agree). Each subscale could be given a score between 5 and 25, with higher numbers indicating a greater drive to get moving. The scale's reliability (Cronbach's alpha  $\alpha = .70-.92$ ) and validity (content validity) have been established. Validating the Physical Activity and Leisure Motivation Scale (PALMS) - Scientific Figure on Research Gate ([Morris & Rogers, 2004; Habib et al., 2022](#)).

#### **Athletic Fear Avoidance Questionnaire (AFAQ; Dover & Amar 2015)**

The AFAQ questionnaire is designed to assess athletes' avoidance of risk due to injury. Athletes' fear avoidance could be identified as a negative psychological barrier to rehabilitation, and this scale could be used by sports medicine experts such as athletic therapists and athletic trainers as an additional rehabilitation tool. The AFAQ is a scale that evaluates athletes' fear avoidance

connected to sports-related injuries and may be utilized to find possible mental impediments to recovery. AFAQ questionnaire is a valid and reliable instrument (Dover & Amar 2015).

### **Other Factors**

Other factors are 4<sup>th</sup> variable which has different factors so each factor has some questions regarding the research, which can influence participation in sports or non-participation. The factors include Personal Barriers, Family Barriers, Cultural barriers, social barriers, Psycho barriers, Disease management, Positive experience, Positive attitudes, social contacts, Suitable environment, and self-experience. Identifying the potential facilitators and barriers to inclusion in each setting can help sports organizations retain and expand the number of players, and workers, including supporters who interact and engage regularly. Needs are often completely satisfied; nonetheless, a sense of insufficiency is always attainable. As a result, people focus on achieving a goal to fulfill their needs. They can also describe it as maximizing one's ability and taking the opportunity to become whatever one desires. Some important other factors are given below which have a strong effect on motivation and sports activities (Dover & Amar 2015).

### **Data Collection**

The online survey for the questionnaire is where the bulk of the data was collected. The survey asks questions on a study on how motivation and other factors affect athletes' participation in sports at a Pakistani university. The researcher double-checked the questionnaire to ensure that the respondents had responded to every question before analyzing the data. The survey employs a Likert scale with five possible responses: strongly agree, agree, neither agree nor disagree, disagree, and strongly disagree. These five are the data measurement points. A total of 350 google

forms were sent to the participants and 311 google forms were filled and returned.

### **Procedures**

Users can easily gather a variety of data with Google Forms, a platform for creating web forms. For the research procedure, I used the Google form. With a Google Form, students can receive responses from others in a wonderful way. Each form, from a brief one-question survey to a comprehensive quiz with several sections, can be used with a Google Form to reduce the amount of reading and totaling replies on sheets. Additionally, a form offers a classy alternative to mailing a list of people with a series of inquiries. A survey form can be used to replace an ordinary participant intake form, gather contact details from website visitors, collect raw data, collect opinions, gather feedback, and assess goods and services.

### **Data analysis**

Correlation and Multiple regression analysis were utilized to look at the connections between the PALMS, AFAQ, and Other Factors. The Statistical Package for the Social Sciences (SPSS) version 26.0 was used to compile the data and draw the conclusions. Descriptive statistics (mean, standard deviation, standard errors, and frequencies) were first computed for demographic characteristics. Second, Pearson's product correlations were used to analyze the association between PALMS, AFAQ, and Other Factors scales and subscales to conclude the study's hypotheses.

### **Results and Findings**

The data was analyzed using the Statistical Package of Social Sciences (SPSS) the data indicates that there is a higher representation of male students (62.4%) compared to female students (37.6%). It is important to note that this interpretation is based solely on the given data and does not account for any potential gender identities beyond male and female.

**Table 1 Gender-wide distribution of students  
(N=311)**

	Frequency	Percentage
Male	194	62.4
Female	117	37.6

### **Correlation among PALMS, AFAQ, and Other Factors**

Table 2 results show the correlations between Sports Participation and the eight PALMS motives (mastery, physical condition, psychological condition, affiliation, appearance, enjoyment, competition, and others), and other factors. There is a significant difference between the PALMS motives subscale and other factors. The association between AFAQ and injuries is minimal walking, moderate exercise, and vigorous exercise all significantly lowered with other factors. Lastly, moderate and vigorous exercise, as well as walking, showed a slight correlation with sitting.

[See Appendix A](#)

### **Multiple Hierarchical Regression Analysis**

Table 3 shows the results of the stepwise multiple regression analysis between sports participation and motivation subscales as a predictor variable and AFAQ. Two motives, psychological condition, and Mastery were entered in Step 2, and two motives, psychological condition, mastery, and enjoyment were entered in Step 3. In step, the model explains 19% variance with  $F=70.68$ ,  $P<,.01$  for AFAQ, In this model psychological condition was found to be a significant predictor of AFAQ, In step the modal explains 22% of the variance in AFAQ, with  $F=42.96$ ,  $P<,.01$ .

[See Appendix B](#)

Table 4 shows the results of the stepwise multiple regression analysis between sports participation and motivation subscales as a predictor variable and AFAQ. Two motives, Affiliation and competition were entered in Step 2, and two motives, affiliation, competition, and other expectations were entered in Step 3. In step, the model explains

31% variance with  $F=138.26$ ,  $P<,.01$  for AFAQ, In this model, affiliation was found to be a significant predictor of AFAQ, In step3 the modal explains 33% of the variance in AFAQ, with  $F=74.741$ ,  $P<,.01$ .

[See Appendix C](#)

### **Discussion**

The results demonstrate that there is a strong relationship between motivation and sports involvement among collegiate athletes (Reifsteck., Gill, & Labban, 2016). Many factors were examined (Mastery, Physical Health, Emotional Health, Affiliation, Appearance, Enjoyment, and Competition), and all were found to be significantly correlated with motivation (AFAQ, Pain). The third objective is to learn the effects of motivation and other factors on sporting engagement. In the absence of motivation and dedication, other mental qualities such as self-assurance, focus, intensity, and emotional stability are of little use in improving athletic performance (El-Zohiry & Abd-Elbaqy, 2019). The Results were also supported from a stepwise multiple regression analysis with the AFAQ's motivation and engagement subscales as independent variables (Monticone, et al. 2022). In this model, affiliation was found to be a strong predictor of AFAQ. Motivation and its types intrinsic or extrinsic, and both types of motivation can influence an athlete's decision to participate in sports (Rosario, 2023). Other factors that can influence sports participation include access to facilities and equipment, social support, cultural attitudes towards sports, and the availability of organized teams and competitions. Study Lieberoth (2015) supported that Students can improve their performance in sports through conditioning, mental preparation, and training, but these activities will only be performed at a subpar level if the student is not intrinsically motivated to improve. Athletes who are "intrinsically motivated" put forth great effort in their pursuit of skill

mastery and are driven to succeed by their internal motivation (Rosario, 2023). The results of the study confirm that athletes will have higher outcome performance results if they are motivated during the pre-competition, competition, and post-competition phases of their athletic endeavors, which are all necessary ingredients of competition and for enhanced performance (Issurin, 2017). In addition, the study highlighted the significance of motivation and demonstrated why it should be factored into the design of all sports. Knowing that the effect of motivation on athletes' achievements may be helpful to state governments, and perhaps sports managers and administrators. Athletes can achieve peak performance in competition through inspiration, which boosts their focus, self-assurance, and self-control (Issurin, 2017). A study conducted by Gustafson & Rhodes (2006) explored the relationship between access to recreational facilities and sports participation among adults. The finding of the study recommended that governments, sports administrators, and coaches should be educated in the numerous motivating ways available, as each athlete is different and will respond differently to different methods.

### Conclusion

These findings would help students, sports administrators, and educational institutions in their pursuit of advancing the field of sports sciences. The high-quality facilities and equipment, creating a supportive social environment, and promoting a positive cultural attitude towards sports can also be effective strategies to increase PA participation. The study concluded that multiple factors affecting sports participation will likely be most effective in promoting physical activity and sports engagement among athletes in Pakistani universities. The results revealed a positive association

between perceived competence and sports involvement.

### Recommendations

The research by Gholami et al (2016) supported that the availability of sports facilities and resources can significantly impact sports participation rates. Individuals are more likely to participate in sports if they have easy access to well-equipped facilities and resources. The findings indicated that individuals with greater access to facilities were more likely to engage in sports activities. The findings of this research lend credence to the PALMS's reliability and validity for measuring motivation for sports participation. Health practitioners can benefit from the PALMS by learning more about the various reasons people engage in various types of physical activity and exercise. By expanding the focus of physical activity promotion beyond the conventional health benefits, this data may be used to cater to a wider range of individuals' needs and motivate them to get moving.

### References

- Alam, A. (2022). Investigating sustainable education and positive psychology interventions in schools towards the achievement of sustainable happiness and wellbeing for 21st-century pedagogy and curriculum. *ECS Transactions*, 107(1), 19481.
- Badami, R., Vaez Mousavi, M., Wulf, G., & Namazizadeh, M. (2011). Feedback after good versus poor trials affects intrinsic motivation. *Research Quarterly for Exercise and Sport*, 82(2), 360-364.
- Bavaresco, G., Santos, T., Mezzadri, F. M., & Carvalho, M. J. (2022). Volunteer motivation in sports events in Brazil. *Journal of Physical Education*, 33(1), 73-81.
- Berns, A., Isla-Montes, J. L., Palomo-Duarte, M., & Doderó, J. M. (2016). Motivation, students' needs, and learning outcomes: A hybrid game-based app for enhanced language learning. *SpringerPlus*, 5(1), 1-23. doi: 10.1186/s40064-016-2971-1.
- Bondár, R. Z., Di Fronso, S., Bortoli, L., Robazza, C., Metsios, G. S., & Bertollo, M. (2020). The

- effects of physical activity or sport-based interventions on psychological factors in adults with intellectual disabilities: A systematic review. *Journal of Intellectual Disability Research*, 64(2), 69-92.
- Clement, D., Arvinen-Barrow, M., & Fetty, T. (2015). Psychosocial responses during different phases of sport-injury rehabilitation: a qualitative study. *Journal of Athletic Training*, 50(1), 95-104.
- Deci, E. L., & Ryan, R. M. (2013). *Intrinsic motivation and self-determination in human behavior*. New York: Springer Science & Business Media.
- Dover, G., & Amar, V. (2015). Development and validation of the athlete fear avoidance questionnaire. *Journal of Athletic Training*, 50(6), 634-642.
- El-Zohiry, A. A., & Abd-Elbaqy, K. Y. (2019). The moderating effect of intrinsic motivation on the relationship between psychological capital and organizational citizenship behaviors. *Management Review: An International Journal*, 14(2), 4-32.
- Gholami, H., Rezaei, G., Saman, M. Z. M., Sharif, S., & Zakuan, N. (2016). State-of-the-art Green HRM System: Sustainability in the sports center in Malaysia using a multi-methods approach and opportunities for future research. *Journal of Cleaner Production*, 124, 142-163.
- Gustafson, S. L., & Rhodes, R. E. (2006). Parental correlates of physical activity in children and early adolescents. *Sports Medicine*, 36(1), 79-97.
- Guthold, R., Stevens, G. A., Riley, L. M., & Bull, F. C. (2020). Global trends in insufficient physical activity among adolescents: a pooled analysis of 298 population-based surveys with 1.6 million participants. *The Lancet Child & Adolescent Health*, 4(1), 23-35.
- Goes, R. A., Lopes, L. R., Cossich, V. R. A., de Miranda, V. A. R., Coelho, O. N., do Carmo Bastos, R., ... & Perini, J. A. (2020). Musculoskeletal injuries in athletes from five modalities: a cross-sectional study. *BMC Musculoskeletal Disorders*, 21, 1-9.
- Habib, M. B., Khoo, S., & Morris, T. (2022). Motives and passion of adults from Pakistan toward physical activity. *International Journal of Environmental Research and Public Health*, 19(6), 3298.
- Haywood, K. M., & Getchell, N. (2021). *Life span motor development*. Human kinetics.
- Issurin, V. B. (2017). Evidence-based prerequisites and precursors of athletic talent: a review. *Sports Medicine*, 47(10), 1993-2010.
- Jaydari Fard, S., Tahmasebi Boroujeni, S., & Lavender, A. P. (2019). Mental fatigue impairs simple reaction time in non-athletes more than athletes. *Fatigue: Biomedicine, Health & Behavior*, 7(3), 117-126.
- Lieberoth, A. (2015). Shallow gamification: Testing psychological effects of framing an activity as a game. *Games and Culture*, 10(3), 229-248.
- Monticone, M., Dover, G., Massidda, M., Giordano, A., & Franchignoni, F. (2022). Cross-cultural adaptation and validation of the Athlete Fear Avoidance Questionnaire in Italian university athletes with musculoskeletal injuries. *International Journal of Rehabilitation Research*, 45(3), 223-229.
- Morris, T.; Rogers, H. Measuring motives for physical activity. In *Sport and Chance of Life, Proceedings of the International Sport Science Congress, Daejeon, Korea, 18–20 June 2004*; Korean Alliance of Health, Physical Education, Recreation, and Dance: Daejeon, Korea, 2004; pp. 242–250.
- Reifsteck, E. J., Gill, D. L., & Labban, J. D. (2016). "Athletes" and "exercisers": Understanding identity, motivation, and physical activity participation in former college athletes. *Sport, Exercise, and Performance Psychology*, 5(1), 25.
- Rosario, M. A. B. (2023). Level of motivational factors of athletes in relation to their sports participation. *European Journal of Physical Education and Sport Science*, 10(2).
- Soper, D. S. (2020). A-priori sample size calculator for structural equation models [Software].
- Ullah, I., Islam, M. S., Ali, S., Jamil, H., Tahir, M. J., Arsh, A., & Islam, S. M. S. (2021). Insufficient physical activity and sedentary behaviors among medical students during the COVID-19 lockdown: findings from a cross-sectional study in Pakistan. *International Journal of Environmental Research and Public Health*, 18(19), 10257.
- Vink, K., Raudsepp, L., & Kais, K. (2015). Intrinsic motivation and individual deliberate practice are reciprocally related: Evidence from a longitudinal study of adolescent team sport athletes. *Psychology of Sport and Exercise*, 16, 1-6.
- Weiss, M. R., Amorose, A. J., & Wilko, K. R. (2009). Coaching behaviors, motivational climate, and psychosocial outcomes among female adolescent athletes. *Pediatric Exercise Science*, 21(4), 475-492.



**Appendix A**

**Correlation between Sports Participation and Motivation Scale and Other Factors Scale**

**Table 2**

*Shows the Correlations between Sports Participation and the eight PALMS motives (mastery, physical condition, psychological condition, affiliation, appearance, enjoyment, competition, and others), and other factors (AFAQ, Pain) (n=311)*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
1 Personal_Barriers	-	.43 4**	.49 5**	.17 0**	.40 5**	-	0.00	-	-	0.0	.16	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	
2 Family_Barriers				.38 3**	0.0 98	.45 1**	0.0 90	.168 **	.13 5*	0.0 89	.12 5*	0.0 28	-	0.1 19	0.0 05	.12 1*	0.0 97	0.0 22	-	0.0 04	0.0 39	0.0 47
3 Cultural_Barriers					.36 4**	.27 5**	.12 5*	.186 **	0.0 91	-	.13 1*	0.0 99	0.0 70	0.0 48	0.0 4**	0.1 28	0.0 00	.15 3**	0.0 44	.18 3**	0.0 22	0.0 11
4 Social_Barriers						.34 2**	.18 9**	.449 **	.38 4**	-	.39 2**	0.1 02	0.0 22	0.0 07	0.0 65	0.0 3*	-.14 6*	.14 54	0.0 04	0.1 04	-	-
5 Psycho_Barriers							.27 5**	.389 **	.15 4**	-	.20 7**	.12 9*	-	0.0 01	0.0 93	0.0 84	0.0 55	-	0.0 25	0.0 18	0.0 28	0.0 60
6 Diseases_Manage								.611 **	.36 7**	.24 3**	0.0 21	0.0 30	-	-	-	-	-	-	-	-	0.0 12	0.0 20
7 Positive_Exp									.60 0**	.23 1**	.16 0**	-	-	0.0 67	0.0 47	0.0 62	0.0 25	0.0 62	0.0 25	0.0 18	0.0 28	0.0 60
8 Positive_Attitude										.14 2*	.50 3**	-	0.0 0.0	0.0 34	0.0 28	-	0.0 45	0.0 57	0.0 00	0.0 0.0	0.0 0.0	0.0 0.11
9 Social_Contacts											0.0 04	0.0 82	-	0.0 0.0	0.0 44	0.0 58	0.0 33	0.1 06	-	0.0 19	0.0 0.0	0.0 0.0
10 Suitable_Env												.53 3**	-	0.0 56	0.0 62	0.0 31	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.11	0.0 0.11
11 Self_Exp													0.0 76	0.0 38	0.0 02	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0
12 Mastery3																						
13 Enjoment_3																						
14 Psychological_Conditionation_3																						
15 Physical_Condition_3																						
16 Appearance_3																						
17 Other_Expectations_3																						
18 Affiliation_3																						
19 Competition_Ego_3																						
20 AFAQ_3																						
21 Pain_3																						

**See Appendix B**

**Table 3**

***Multiple Hierarchical Regression Analysis for Measuring the Prediction of Sports Participation, PALMS, and AFAQ (n=311)***

Variable	AFAQ			95% CI
	R <sup>2</sup>	F	β	
Step 1	.19	70.68	11.10	[8.891, 13.1312]
Constant			.431	[.330,531]
Psychological Condition			.431	
Step 2				
Constant	.22	42.96	7.80	[4.973, 10.645]
Psychological Condition			.418	[.139, 517]
Mastery			.175	[.078, .73]
Step 3				
Constant	.24	32.14	5.51	[2.309,8.720]
Psychological Condition			.372	[270,475]
Mastery			.206	[.108,.304]
Enjoyment			.142	[.046,239]

*P < .01*

**Appendix C**

**Table 4**

***Multiple Hierarchical Regression analysis for Measuring the Prediction of Sports Participation, PALMS, and AFAQ (n=311)***

Variable	AFAQ			95% CI
	R <sup>2</sup>	F	β	
Step 1				[6.870,10.794]
Constant	.31	138.26	8.832	[.455,637]
Affiliation			.546	
Step 2				
Constant	.33	74.741	7.088	[.356,.570]
Affiliation			.463	[.049,.269]
Competition			.159	
Step 3				
Constant	.337	51.963	6.304	[3.921,8.687]
Affiliation			.392	[.267,.517]
Competition			.134	[.022,.246]
Other Expectation			.130	[.011,.250]

*P < .01*