



## Physical activity barriers and team cohesiveness of Angeles City volleyball players during the pandemic

<sup>abcd</sup>Rainer Fernandez, <sup>abcd</sup>Sandra Ibañez , <sup>abcd</sup>Jhon Clifford Rotas, <sup>abcd</sup>Rufino Jr. Velasco, <sup>\*abcde</sup>Joseph Lobo , & <sup>abcd</sup>Michael Louie Celis 

Department of Physical Education, Institute of Education, Arts and Sciences, City College of Angeles, Angeles City, Philippines

Received: 03 September 2022; Accepted 13 October 2022; Published 15 December 2022



### ABSTRACT

Physical activity barriers, particularly for the volleyball players of Angeles City, are one of the elements that hinder team cohesiveness for all athletes during this pandemic. According to research, there are many areas where the pandemic influences physical activity and team cohesiveness. The purpose of this study is to ascertain whether physical activity barriers have a direct impact on volleyball players' ability to work together as a team. Based on related literature on how it affects physical activity barriers, an online Cross-Sectional, Descriptive-Survey research was conducted on the volleyball players around Angeles City. Respondents were chosen based on specific qualities and criteria and provided unbiased selection. In analyzing the data, the pandemic practices and communication are the areas that impact the volleyball players in the middle of the pandemic. The findings showed that physical activity barriers have no association with the team cohesiveness of the volleyball player. It is suggested to the trainers, coaches, school administrators, and players that they can apply the findings of this study to their training amidst this pandemic. For further validation, the same research is needed to identify the other areas or factors that affect physical activity barriers to team cohesiveness.

**Keywords:** Physical activity barriers; team cohesiveness; volleyball players; pandemic

**\*Corresponding Author**

Email: [josephlobo@cca.edu.ph](mailto:josephlobo@cca.edu.ph)



[https://doi.org/10.25299/es:ijope.2022.vol3\(3\).10450](https://doi.org/10.25299/es:ijope.2022.vol3(3).10450)

**Copyright** © 2022 Rainer Fernandez, Sandra Ibañez, Jhon Clifford Rotas, Rufino Jr. Velasco, Joseph Lobo, Michael Louie Celis

**How to Cite:** Fernandez, R., Ibañez, S., Rotas, J. C., Velasco, R. J., Lobo, J., & Celis, M. L. (2022). Physical activity barriers and team cohesiveness of Angeles City volleyball players during the pandemic. *Edu Sportivo: Indonesian Journal of Physical Education*, 3(3), 255-268. [https://doi.org/10.25299/es:ijope.2022.vol3\(3\).10450](https://doi.org/10.25299/es:ijope.2022.vol3(3).10450)

**Authors' Contribution:** a – Study Design; b – Data Collection; c – Statistical Analysis; d – Manuscript Preparation; e – Funds Collection



## INTRODUCTION

### Background of the Study

Cohesion can play a variety of functions on a sports team, allowing them to succeed or fail over the season (Fitzgerald, 2019). A sequence of dynamic processes of mutual attraction and collaboration among members of a sports team toward team goals or organization is called team cohesiveness. Team cohesion is a driving force for a team that actively encourages members to stay on the team and discourages them from leaving (Kao, 2019). The tendency for a group to stick and remain together in pursuit of its instrumental objectives and for the fulfillment of member affective needs, according to the definition of sport-team cohesion. While this definition emphasizes the meaning of the construct, it is also critical to comprehend the cues people use to shape their impressions of cohesiveness (McLaren & Spink, 2018).

Student-athletes (SAs) have unique challenges in maintaining their physical exercises, such as a loss of team support, a lack of motivation without specified goals, and changes in identity (Smith et al., 2020). Additional data reveals that due to technological advancements and environmental changes, sitting has become the default habit in the business, transportation, and household environments, and the amount of sedentary time is increasing (Hoare et al., 2017). Team cohesion may and should be understood in an athlete's overall life. Athletes need more control over their team and personal roles to reduce the risk of negative repercussions (Anderson & Dixon, 2019). According to (Guessogo et al., 2021), because of the increase in Physical Activity Barriers, roughly 70.3 percent of gamers have raised their body mass index (BMI).

However, from early 2020 onwards, governmental lockdowns (i.e., travel restrictions and closures of schools, businesses, and exercise/sports facilities as a safety measure) enforced severe changes in people's everyday life, with possible physical, social, and psychological effects (Ronkainen et al., 2021). During the semi-lockdown period, the volleyball players continued to practice to make a plan with the team members to improve the athletes' team cohesion during the pandemic (Guessogo et al., 2021). Furthermore, it would be appropriate to repeat behaviors such as collaboration, communication, cooperation, and sharing to motivate players who believe they are unsuccessful in the team, increase their cohesion level within the team, and include unsuccessful players in the game more (Filiz & Aydin, 2016).

Overall, athletes were unmotivated to engage in physical activity due to anxiety and a lack of social support. Respondents who were able to sustain their exercise levels noted a shift in what inspired them: physical health and appearance were less motivating, and mental health and well-being were more motivating. During the epidemic, stress relief, anxiety reduction, and sleep improvements were among the top motivators, and research backs up the use of physical activity for brain health, stress management, and sleep quality (Marashi et al., 2021).

### Review of Related Literature

There have been previously conducted studies regarding the various factors that is associated with team cohesiveness such as personal and team (Tikon et al., 2019), relationship with the coach (Freire et al., 2022; Lobo, et. al., 2022), leadership style (Vahdani et al., 2012), and performance feedback (Salcinovic et al., 2022). However, after numerous attempts in searching for studies connected to physical activity barriers and team cohesiveness, only a few studies were found and further investigation may be conducted.

To further contextualize the issues in this study, the following paragraphs will present the state of art condition of Team Sports, specifically within the sphere of Physical Activity Barriers (PAB) and Team Cohesiveness (TC) among young Volleyball athletes. This literature review is divided into two sub-topics: (i) Influence of physical activity barriers in sports, (ii) Influence of team sports to physical activity barrier.

### Influence of Physical Activity Barriers in Sports

An activity requiring physical exertion and skill in which an individual or team competes against another or others for amusement, according to the definition of sport (Somerset & Hoare, 2018). Sport's positive impacts are primarily accomplished through physical exercise (Malm et al., 2019). Physical exercise, a significant component of most sports, creates these favorable impacts (Malm et al., 2019). On the other hand, physical activity barriers limit participants' enjoyment and motivation to play (Patel et al., 2018).

According to research conducted by the National Basketball Association and USA Basketball, participation in sports should be a good experience (Patel et al., 2018). Sports cooperation may be hampered by physical activity limitations such as injuries (Patel et al., 2018). Physical activity is a personal choice, although the amount of physical activity a person engages in is impacted or determined by various circumstances. Sabharwal and Sabharwal (2018) findings revealed that the young adults saw a variety of personal, social, and environmental variables as limitations, including time constraints, exhaustion, stress, family control, safety concerns, and more. At this level, understanding and overcoming the obstacles will be beneficial.

Thus, researchers can use this information to design and implement interventions, strategies, and policies to promote participation in physical activity (Sabharwal & Sabharwal, 2018). Other obstacles to physical exercise were discomfort and injury. The results reveal that the teenagers faced challenges, recognized the benefits and drawbacks of physical activity, and considered variables that could encourage physical activity (Mikaelsson et al., 2020). Sport, on the other hand, is under investigation due to the pandemic, which is a significant factor in PAB (Evans et al., 2020). A complete halt to all competitive sports at all levels. As a result, students can no longer participate in school-based physical activities such as PE, recess, or walking to and from school (Dunton et al., 2020). Although school and park restrictions, as well as the termination of team sports and planned activity courses, were essential to slow the virus' spread and allow healthcare facilities to expand, they appear to have significantly influenced children's PA. Athletes with PAB are also less likely to do well in a team sports event.

### **Influence of Team Sports to Physical Activity Barrier**

"Both team and individual sports entail competition, but cooperation is more prominent in team sports than in individual sports," according to the definition of team sports (Eybers & Hattingh, 2019). Team sports have health benefits for individuals, group cohesion and performance, and organizational benefits such as improved work performance (Brinkley et al., 2017).

Incompatibilities due to lack of time, participation in leisure activities, and demotivation due to routine and imposed tasks were all identified as hurdles by the teens. Participation in team sports and friends' sound effects were linked to motivation. The females were equally concerned about their appearance and diet (Fernández-Prieto et al., 2019).

Adolescents' immediate environment was highlighted as a source of barriers in three areas: family, friends, and school (Fernández-Prieto et al., 2019). Individual characteristics, time constraints, psychological concerns, lousy management, a lack of awareness and education, the social context, a lack of familial support, and active engagement were all impediments to the growth of sports tourism in Shiraz's park (Olfateh & Savadi, 2017).

Sports engagement has been linked to various physical and mental health advantages; however, participation reduces with age, and understanding of perceived barriers to participation in children is limited (Basterfield et al., 2016). Despite the advantages, there is evidence that children are becoming more sedentary and are at a higher risk of chronic disease than those who live an active lifestyle (Somerset & Hoare, 2018). The chance that parents identified impediments to accessing local sports and leisure facilities was estimated using multivariable logistic regression modeling. Parents are more likely to report barriers to access with lower household incomes (Harrington et al., 2017).

## Statement of the Problem

This study seeks the connection of physical activity barriers in the team cohesiveness of volleyball players during the pandemic. Furthermore, the exact purpose of this research is to answer the following questions: (i) How may the volleyball players be described based on their demographic profile and playing history? (ii) What is the level of physical barrier of the respondents? (iii) What is the level of team cohesiveness of the athletes during the pandemic? (iv) What is the PAB's influence on the TC of the volleyball player? (v) What is the study's implication in team sports management and coaching?

## METHOD

In this study, the researchers utilized the cross-sectional, descriptive - survey method. The descriptive research aimed to determine the relationship between physical activity barriers and team cohesiveness of volleyball players during the pandemic. This will be done using a self-administered online survey conducted by the researchers. The respondents of this study will be selected based on the following criteria: (i) Athletes who attend public and private school, (ii) Officials and non-official varsity players, (iii) Must have at least 1 year of volleyball experience, (iv) Must be 18 years old and above, (v) Who has enough experience training and playing with a team.

The Researchers used the Simple Random and Quota sampling technique to gather the data more effectively. *Quota sampling* is a non-random sampling approach in which participants are chosen based on specified qualities such that the overall sample has the same characteristic distribution as the general population (Taherdoost, 2016). While the *Simple random* procedure provides an unbiased random selection, drawing inferences from the outcomes of a study requires a representative sample. Keep in mind that one of the purposes of research is to draw inferences about the entire population based on the results of a sample. The representativeness of a sample acquired through simple random sampling makes generalizations from the sample's results to the population reasonable (Sharma, 2017).

The study used three (3) tools to obtain data from the respondents. Firstly, Part I deals with the demographic profile and volleyball playing history of the respondents from the public and private schools in Angeles City, Pampanga, Philippines. All items in the first part of the questionnaire were based on the review of the literature performed. The Group Environment Questionnaire (GEQ) was also adapted for this study with a Cronbach's Alpha value of 0.73-0.83. It is designed to assess the perceptions of the entire team. Responses from GEQ are then recorded from 1-9, indicating the level of agreement to each statement. Lastly, Exercise Benefits/Barriers Scale (EBBS) was also adapted with a Cronbach's Alpha value of .954. EBBS aims to determine individuals' perceptions of the benefits and barriers to participating in sports. All responses are recorded from 1 – strongly disagree and 4 – strongly agree.

This study has utilized a *subgroup sampling technique*. Based on the target population, the sample target for the study is 132 respondents. In order to recruit respondents for this study, the following protocol was strictly followed: (1) the researchers identified the address of the athlete coordinators or the coach of the volleyball team to seek approval for data gathering, and (2) wrote a formal letter of request indicating the objectives of the study and the expected contribution, risks, and benefits, (3) secured a list of names and contact information (if possible), (4) seek for both verbal and written consent, the preferred method for data gathering (online or face-to-face) while observing minimum health protocols and (5) conducted data gathering based on the agreed conditions.

This study used descriptive, independent t-test, and correlational analyses to investigate data gathered from the respondents. *Frequency* and *percentage* were used to describe the demographic profile, athletic history, level of physical barriers, and team cohesiveness. *Independent T-Test analysis* was used to describe the difference (Lobo et al., 2022), between physical activity barriers, demographic profile, and sports/athletic history and between team cohesiveness, demographic profile, and sports/athletic history. Lastly, *Pearson-r* was used to determine the relationship between team cohesiveness and physical activity barriers.

## **RESULTS AND DISCUSSION**

### **Demographic Profile**

In terms of age, there are (n=78, 59.1%) respondents with the age between 18-21, while (n=54, 40.9%) are respondents ages 22-24. Also, there are (n=64, 48.5%) males who answered the survey questionnaire compared to females (n=68, 51.5%). On the one hand, most respondents are from public schools (n=90, 68.2%) compared to private schools (n=42, 31.8%). Lastly, based on respondents' education level, mostly are college (n=93, 70.5%), while high school respondents are (n=39, 29.5%).

### **Sports/Athletic History**

Based on the results, most of the respondents are varsity players (n=83, 62.9%), while non-varsities are (n=49, 37.1%). Also, most of the respondents have 1-3 years of experience (n=88, 66.7%), followed by 4-6 years (n=40, 30.3%) and 7-10 years (n=4, 3.0%). During pandemic, most of the respondents are not having their training weekly (n=53, 40.2%), while (n=50, 37.9%) are having their training per week between 5-6 hours (n=50, 37.9%) followed by 3-4 hours (n=22, 16.7%), 1-2 hours (n=4, 3.0%), and 7-8 hours (n=3, 2.3%). Additionally, most of the respondents does not participate to competitions in school (n=72, 54.5%), compare to those who are (n=60, 45.5%). It was also found that most respondents did not practice during the pandemic (n=106, 80.3%) compared to those who are (n=26, 19.7%). The mode of communication of the athletes is mostly via social media (n=91, 68.9), followed by SMS/Text Message (n=34, 25.8%), and lastly, face-to-face (n=7, 5.3%). Moreover, most of the teammates of the athletes are their friends (n=61, 46.2%), followed by a colleague (n=42, 31.8), family (n=26, 19.7%) and competitor (n=3, 2.3), respectively. Lastly, most of the respondents do not play volleyball anymore (n=91, 68.9) compared to those still playing the sport (n=41, 31.1%).

### **Overall Level of Physical Activity Barriers Experienced by Volleyball Players**

The findings revealed that most of the athletes experience "middle" or average level of physical activity barriers (n=92, 69.7%), while others (n=36, 27.3%) experience a "high" and "low" level of physical activity barriers (n=4, 3.0%).

Lack of company, lack of social support from family and friends, unfavorable climate, and limited access to PA venues were the most commonly mentioned impediments to Physical Activity. Likewise, in the study of Rech et al. (2018), the most common stated difficulties were a lack of motivation and time. Moreover, these are results of previously conducted studies. In this regard, conducting a similar study focusing on these stated impediments in order to understand these factors and to provide recommendations in order to lessen the level of barriers in physical activities of students and athletes.

### Overall Level of Team Cohesiveness of Volleyball Players

Concerning social group integration, it was found that most are in the “middle” level (n=119, 90.25%), while others are (n=10, 7.6%) in the “high” level and (n=3, 2.3%) “low.” Task group integration of the respondents are also found to be in the “middle” level (n=102, 77.3%), followed by “low” (n=16, 12.1%) and high (n=14, 10.6%), respectively. Lastly, the overall team cohesiveness of the volleyball players is found to be “middle” level (n=119, 90.2%), followed by “high” (n=9, 6.8%) and “low” (n=4, 3.0), respectively. Many social and sports psychologists believe that team cohesion and player satisfaction significantly impact team performance. This finding suggests that players are not drawn to their team because of its social environment (e.g., teammates are their best friends, they participate in team social events) or the way their team functions on a social level (e.g., they go out with their teammates, they maintain friendships after the sports season; [Brisimis et al. 2018](#)). However, these results are not yet conclusive. Conducting a similar study from a different set of population and comparing the results may lead to a better understanding of these.

### Level of physical activity barriers vis-à-vis demographic profile and sports/athletic history of volleyball players

The results revealed that most of the volleyball players aged between 18-21 (n=53, total M=2.21) are currently experiencing “middle” level of physical activity barriers, compared to those players ages between 22-24 years old (n=39, total M=2.59) who all experience a “middle” level of physical activity barriers as well. Based on gender, the results revealed that most of the female players (n=50) are experiencing a “middle” level of physical activity barriers compared to male players (n=42) who are also experiencing a “middle” level of barriers. Players who come from public schools are mostly experiencing a “middle” level of barriers (n=60 total M=2.14), compared to those who are in private schools (n=32, total M=2.37), who are also experiencing a “middle” level of barriers. Most college players are mostly experiencing a “middle” level of barriers (n=63, total M=2.32), compared to those high school players (n=29, total M=1.95) who are also experiencing a “middle” level of barriers. Moreover, most varsity players are found to be experiencing a “middle” level of activity barriers (n=51, total M=2.16) compared to those who are not (n=41, total M=2.29) who are also experiencing a “middle” level of activity barriers. Those players whom their friends' influence are mostly experiencing a “middle” level of activity barriers (n=45, total M=2.09), compare to self (n=32, total M=2.27), social media (n=10, total M=2.77) and family (n=5, total M=1.80), respectively. Those who have 1-3 years experience in volleyball are mostly experiencing a “middle” level of activity barriers (n=68, total M=2.14), compared to 4-6 years (n=23, total M=2.35) who also experiencing a “middle” level, and lastly, 7-10 years are mostly experiencing a “high” level of activity barriers (n=2, total M=2.41). COVID-19 caused sporting events to be canceled, gyms and fitness facilities to close, and outdoor activities to be restricted. These factors prompted athletes to alter their training regimens and train at home, the majority of which is unsupervised by medical personnel or coaches (Lim et al., 2016).

Moreover, these results findings are not yet conclusive. They may be supported by studies focusing on the physical activity barriers experienced by different age groups, gender, type of school, educational level, (non-)varsity, students/athletes' influencers, and years of experience. Currently, no studies were found concerning physical activity barriers to the following variables aforementioned above. In this, a similar study may be conducted in other locality to compare the results and determine if the study's findings may support or refute the present research findings.

## Level of physical activity barriers vis-à-vis sports/athletic history of volleyball players

The data revealed that players who participate (n=54, total M=2.46) and those who do not (n=65, total M=2.67) in competition in school both have "middle" level of physical activity barriers, but somehow different based on the number of respondents. Those volleyball players who participate in the community (n=70, total M=2.60) have a "middle" level of physical activity barriers, while those who do not have a "high" level of physical activity barriers (n=50, total M=2.53). Those volleyball players who are practicing during the pandemic (n=24, total M=2.51) and those who are not (n=95, total M=2.59) both have a "middle" level of physical activity barriers but are significantly different based on the number of respondents. In regards to the mode of communication, SMS/Text Message (n=32, total M=2.48), social media (n=80, total M=2.61), and Face-to-face (n=7, total M=2.61) modes all have "middle" level of physical activity barriers, but somehow different based on the number of respondents. Lastly, regarding the teammates of the players with their friends (n=40, total M=2.45), colleagues (n=30, total M=2.79), competitors (n=2, total M=1.70), and family (n=20, total M=2.60) all have "middle" level of physical activity barriers, but pointedly different based on the number of respondents who answered the survey.

The result of the findings is considered not conclusive as these outcomes cannot be supported as no studies were previously conducted in connection to the level of physical activity barriers experienced by those students and athletes who participate in school and in the community, practices during pandemic (or not), mode of communication and type of teammates. Furthermore, this study highly suggests that a parallel study may be conducted to back up or refute the claim of this investigation.

**Table 1. Team Cohesiveness vis-à-vis Demographic Profile**

Profile	Low	Middle	High	Mean
<b>Age</b>				
18-21	3	67	8	2.59
22-29	1	52	1	2.51
<b>Gender</b>				
Male	1	60	3	2.45
Female	3	59	6	2.69
<b>Type of School</b>				
Yes	3	81	6	2.51
No	1	38	3	2.71
<b>Educational Level</b>				
High School	0	32	2	1.95
College	4	83	6	2.63

Table 1 illustrates the demographic profile and sports athletic history based on the level of their team's cohesiveness. The findings show that most of the volleyball players ages 18-21 years old have a "middle" level of team cohesiveness (n=67, total M=2.59) compared to ages between 22-29 (n=52, total M=2.51), whom all have "middle" level of team cohesiveness as well. Both males (n=60, total M=2.45) and females (n=59, total M=2.69) have a "middle" level of team cohesiveness in their respecting team, while it differs based on the number of respondents. Public (n=81, total M=2.51) and private school (n=38, total M=2.71) volleyball players are also having a "middle" level of team cohesiveness but differ based on the number of respondents who answered the survey. Also, both high school (n=36, total M=2.43) and college volleyball players (n=73, total

M=2.63) have a “middle” level of team cohesiveness but differ based on the number of respondents.

No previous studies focused on the variables measured in this current study. Moreover, a similar study is highly suggested to determine the team cohesiveness of those teams in different age groups, gender, type of schools, and educational levels.

**Table 2. Team Cohesiveness vis-à-vis Sports/Athletic History**

Profile	Low	Middle	High	Mean
<b>Participation in Competition in School</b>				
Yes	2	54	4	2.46
No	2	65	5	2.67
<b>Participation in Competition in the Community</b>				
Yes	4	70	4	2.60
No	0	49	50	2.53
<b>Practice during pandemic</b>				
Yes	0	24	2	2.51
No	4	95	7	2.59
<b>Mode of Communication</b>				
SMS/Text Message	1	32	1	2.48
Social media	3	80	8	2.61
Face-to-face	0	7	0	2.61
<b>Teammates</b>				
Friend	1	40	20	2.45
Colleague	2	30	10	2.79
Competitor	0	2	1	1.70
Family	1	20	5	2.60

Table 2 illustrates the team cohesiveness vis-à-vis sports/athletic history. Players who participate (n=54, total M=2.46) and do not (n=65, total M=2.67) in competition in school both have a “middle” level of team cohesiveness but are somehow different based on the number of respondents. Those volleyball players who participate in the community (n=70, total M=2.60) have a “middle” level of team cohesiveness, while those have a “high” level of cohesiveness (n=50, total M=2.53). Those volleyball players who are practicing during the pandemic (n=24, total M=2.51) and those who are not (n=95, total M=2.59) both have a “middle” level of team cohesiveness but are significantly different based on the number of respondents. In regards to the mode of communication, SMS/Text Message (n=32, total M=2.48), social media (n=80, total M=2.61), and Face-to-face (n=7, total M=2.61) modes all have “middle” level of team cohesiveness, but somehow different based on the number of respondents. Lastly, regarding the teammates of the players with their friends (n=40, total M=2.45), colleagues (n=30, total M=2.79), competitors (n=2, total M=1.70), and family (n=20, total M=2.60) all have “middle” level of team cohesiveness, but pointedly different based on the number of respondents who answered the survey.

No studies were conducted concerning the level of team cohesiveness of students and athletes who participate in sports in school and community, practicing during the pandemic, mode of communication, and type of teammates. In order to support or refute these findings, a similar study is highly suggested.



**Table 3. Independent T-test Analysis on the level of Physical Activity Barriers being independent of Gender, Type of School, Educational Level, Varsity Player, Participation (School), Participation (Community), Practice During Pandemic, and Do you still play Volleyball (?)**

	Physical Activity Barriers	N	Mean	SD	df	t-test	Sig	Decision
<b>Gender</b>	Male	64	2.67	.458	130	-.926	.356	Not Significant
	Female	68	2.73	.395				
<b>Type of School</b>	Private School	90	2.72	.456	130	.999	.189	Not Significant
	Public School	42	2.64	.354				
<b>Educational Level</b>	High School	39	2.60	.414	130	-1.848	.067	Significant
	College	93	2.74	.426				
<b>Varsity Player</b>	Yes	83	2.75	.426	130	1.544	.125	Not Significant
	No	49	2.62	.421				
<b>Participation (School)</b>	Yes	60	2.72	.403	130	.573	.568	Not Significant
	No	72	2.68	.447				
<b>Participation (Community)</b>	Yes	78	2.64	.425	130	-1.785	.077	Significant
	No	54	2.78	.420				
<b>Practice during Pandemic</b>	Yes	26	2.42	.477	130	-3.947	<.05	Significant
	No	106	2.77	.385				
<b>Do you still Play volleyball?</b>	Yes	41	2.62	.502	130	-1.425	.157	Not Significant
	No	91	2.73	.386				

Table 3 illustrates the independent t-test analysis performed to determine the difference of physical activity barriers in respect to gender, type of school, educational level, varsity player, participation (community), practice during the pandemic, and whether you still play volleyball (?). It was found out that there is a significant difference observed between physical activity barriers and practice during pandemic  $t(130) = -3.947, p = <.05$ . In contrary, no significant difference observed to gender  $t(130) = -.926, p = .356$ , type of school  $t(130) = .999$ , varsity player  $t(130) = 1.544, p = .125$ , participation (school)  $t(130) = .573, p = .568$ , participation (community)  $t(130) = -1.785, p = .077$ , and do you still play volleyball  $t(130) = -1.425, p = .157$ .

Result findings revealed that varsity players experienced a higher level of physical activity barriers than those who were not. However, the current findings may not be supported since no studies were conducted concerning this variable. Regarding gender, the finding was refuted by the study of (Rosselli et al., 2020), where females are lower on their perceived physical activity barriers compared to males. On the other hand, no previously conducted studies were found in connection to the difference in physical activity barriers experienced by students participating in community sports and practicing during the pandemic. The results can be interpreted that most groups are equal regarding the level of physical activity barriers experienced. To summarize, the following findings may be supported by conducting a study of the same in a different locality.

### **Difference between the level of team cohesiveness in respect to gender, type of school, educational level, type of player, participation (school/community), practice during pandemic, and sport engagement**

It was found out that there is a statistically significant difference between team cohesiveness to the participation in both school  $t(130) = 2.642, p = .009$  and community  $t(130) = -2.526, p = .013$ , and do you still volleyball  $t(130) = 2.189, p = .030$ . On the other hand, there was no statistically significant difference between team cohesiveness to gender  $t(130) = .641, p = .523$ ; type of school  $t(130) = .336, p = .738$ ; educational level  $t(130) = .199, p = .843$ ; varsity player  $t(130) = .883, p = .379$ ; and, practice during

pandemic  $t(130) = .882, p = .380$ . The above findings are not yet conclusive since no studies were found in relation to these variables. In order to support the findings, this study highly suggests conducting a study of the same.

### **Association between physical activity barriers and team cohesiveness**

The results revealed that there is no significant relationship between physical activity barriers to group integration – task ( $r = .089, p = .310$ ), group integration – social ( $r = .005, p = .951$ ), and overall team cohesiveness ( $r = .026, p = .767$ ).

### **Limitations**

Since the research was conducted during the pandemic, some restrictions were applied. These are the following: (i) Since mass gathering and face-to-face meetings were prohibited, the researchers had difficulty preparing and gathering the data due to restrictions and local government policies, (ii) In recruiting the respondents, the researchers did not acquire the maximum pax needed for the study due to the availability and school permissions, (iii) In disseminating the questionnaire, the researchers had a hard time collecting the data needed because some of the respondents were experiencing inconvenience in their internet connection.

### **Implications**

Following the results, the researchers would like to focus on the following areas in physical activity barriers, and team cohesiveness of the volleyball players: (i) Extends volleyball athletes' face-to-face and online training on their home premises. Athletes can work on their training at home, improve their skills in playing volleyball, and maintain the team's cohesion, (ii) Coaches are the administrator of skills during training; possible occurrences that affect the athlete's cohesion may lead to unwanted performances. Coaches can create a training plan that can comprehend the individual abilities of athletes to improve at home and still play as a team with training that enhances their team cohesion, (iii) People with higher authority, such as the sports administrator, manage the teams in competitions such as school programs, local college competitions, and other possible competitions the group can join. They can monitor if the unit is capable of entering a match with their performances based on their training.

### **CONCLUSION**

The main focus of this study is to determine the association between the level of physical activity barriers to the team cohesiveness of volleyball players in Angeles City, Philippines, during the pandemic. After performing the necessary analyses, it was found that there is no association between the two variables. In this, it can be concluded that the level of team cohesiveness of volleyball players may still be high regardless of the physical activity barriers they are experiencing. The study findings can be applied to team sports management and coaching; staff and people focus on athlete improvements, skill improvements, and team cohesion. This study supports that athletes' individual physical activity barriers do not affect the whole team cohesion of the entire team.

In this, the study highly suggests that other detailed data may be obtained, such as coaches/trainers, instructor engagements, and narratives, to determine further the relationship between physical activity barriers and team cohesiveness. Moreover, future researchers may conduct a similar study on a larger sample size and in other locations and use these present findings as a reference.

Lastly, curriculum designers and school administrators can incorporate this study into the school environment by incorporating pedagogical strategies that, in turn, can produce higher levels of team cohesion and can lower the level of physical activity barriers, which in turn can lead to better performance of the school athletes individually and as a team.

## ACKNOWLEDGEMENTS

The researchers would like to acknowledge the people behind the success of this research project.

## REFERENCES

- Anderson, A. J., & Dixon, M. A. (2019). How contextual factors influence athlete experiences of team cohesion: an in-depth exploration. *European Sport Management Quarterly*, 19(3), 353–372. <https://doi.org/10.1080/16184742.2018.1527381>
- Basterfield, L., Gardner, L., Reilly, J. K., Pearce, M. S., Parkinson, K. N., Adamson, A. J., Reilly, J. J., & Vella, S. A. (2016). Can't play, won't play: longitudinal changes in perceived barriers to participation in sports clubs across the child-adolescent transition. *BMJ Open Sport and Exercise Medicine*, 2(1). <https://doi.org/10.1136/bmjsem-2015-000079>
- Brinkley, A., McDermott, H., & Munir, F. (2017). What benefits does team sport hold for the workplace? A systematic review. *Journal of Sports Sciences*, 35(2), 136–148. <https://doi.org/10.1080/02640414.2016.1158852>
- Brisimis, E., Bebetos, E., & Krommidas, C. (2018). Does group Cohesion predict team sport athletes' satisfaction? *Hellenic Journal of Psychology*, 15(1), 108–124.
- Dunton, G. F., Do, B., & Wang, S. D. (2020). Early effects of the COVID-19 pandemic on physical activity and sedentary behavior in children living in the U.S. *BMC Public Health*, 20(1), 1–13. <https://doi.org/10.1186/s12889-020-09429-3>
- Evans, A. B., Blackwell, J., Dolan, P., Fahlén, J., Hoekman, R., Lenneis, V., McNarry, G., Smith, M., & Wilcock, L. (2020). Sport in the face of the COVID-19 pandemic: towards an agenda for research in the sociology of sport. *European Journal for Sport and Society*, 17(2), 85–95. <https://doi.org/10.1080/16138171.2020.1765100>
- Eybers, S., & Hattingh, M. J. (2019). The last straw: Teaching project team dynamics to third-year students. *Communications in Computer and Information Science*, 963, 237–252. [https://doi.org/10.1007/978-3-030-05813-5\\_16](https://doi.org/10.1007/978-3-030-05813-5_16)
- Fernández-Prieto, I., Giné-Garriga, M., & Canet Vélez, O. (2019). [Barriers and motivations perceived by adolescents related to physical activity]. Qualitative study through discussion groups. *Revista Espanola de Salud Publica*, 93.
- Filiz, B., & Aydin, E. (2016). The case of male volleyball players team cohesion in Turkey. *Journal of Physical Education and Sport Management*, 7(3), 18–25. <https://doi.org/10.5897/JPESM2015.0242>
- Fitzgerald, J. (2019). *Cohesion and sport teams success* (Issue May) [Southern New Hampshire University]. <https://academicarchive.snhu.edu/bitstream/handle/10474/3515/hon2019fitzgerald.pdf>

- Freire, G., Contreira, A., De Moraes, J., De Oliveira, D., Fiorese, L., & Do Nascimento Junior, J. (2022). Coach-athlete relationship, team cohesion and motivation in Brazilian youth athletes: a cluster analysis. *Human Movement*, 24(3). <https://doi.org/10.5114/hm.2023.116531>
- Guessogo, R. (2021). Impact of Covid-19 Semi-lockdown on Sports and Physical Activity Behaviors of Cameroonian Elite Volleyball Players: A Cross-sectional Study. *Electronic Physician*, 13(1), 7813–7821. <https://doi.org/10.19082/7813>
- Harrington, D. W., Jarvis, J. W., & Manson, H. (2017). Parents' perceived barriers to accessing sports and recreation facilities in Ontario, Canada: Exploring the relationships between income, neighbourhood deprivation, and community. *International Journal of Environmental Research and Public Health*, 14(10). <https://doi.org/10.3390/ijerph14101272>
- Hoare, E., Stavreski, B., Jennings, G. L., & Kingwell, B. A. (2017). Exploring motivation and barriers to physical activity among active and inactive Australian adults. *Sports*, 5(3), 5030047. <https://doi.org/10.3390/sports5030047>
- Kao, C. C. (2019). Development of team cohesion and sustained collaboration skills with the sport education model. *Sustainability (Switzerland)*, 11(8), 2348. <https://doi.org/10.3390/su11082348>
- Lim, C. K., Yusof, M. M., Fauzee, M. S. O., Othman, A. T., Aman, M. S., Elumalai, G., & Ali, H. M. (2016). Examining sport and physical activity participation, motivations and barriers among young Malaysians. *Asian Social Science*, 12(1), 159–171. <https://doi.org/10.5539/ass.v12n1p159>
- Lobo, J., Bautista, C., Dimalanta, G., & Manuel, S. (2022). Coaching commitment and physical development of student-athletes from various public schools in Angeles City, Pampanga, Philippines. *International Journal of Health Sciences*, 6(S6), 5735–5758. <https://doi.org/10.53730/ijhs.v6nS6.10874>
- Lobo, J., Dimalanta, G., Bautista, C., Buan, E., & De Dios, D. Al. (2022). TikTok Consumption and Level of Class Engagement of Performing Arts Students in the New Normal: Destructive or Beneficial? *American Journal of Education and Technology*, 1(1), 1–9. <https://doi.org/10.54536/ajet.v1i1.305>
- Malm, C., Jakobsson, J., & Isaksson, A. (2019). Physical Activity and Sports—Real Health Benefits: A Review with Insight into the Public Health of Sweden. *Sports*, 7(5), 127. <https://doi.org/10.3390/sports7050127>
- Marashi, M. Y., Nicholson, E., Ogrodnik, M., Fenesi, B., & Heisz, J. J. (2021). A mental health paradox: Mental health was both a motivator and barrier to physical activity during the COVID-19 pandemic. *PloS One*, 16(4), e0239244. <https://doi.org/10.1371/journal.pone.0239244>
- McLaren, C. D., & Spink, K. S. (2018). Examining Communication as Information Exchange as a Predictor of Task Cohesion in Sport Teams. *International Journal of Sport Communication*, 11(2), 149–162. <https://doi.org/10.1123/IJSC.2018-0004>
- Mikaelsson, K., Rutberg, S., Lindqvist, A. K., & Michaelson, P. (2020). Physically inactive adolescents' experiences of engaging in physical activity. *European Journal of Physiotherapy*, 22(4), 191–196. <https://doi.org/10.1080/21679169.2019.1567808>

- Olfateh, M., & Savadi, M. (2017). Identify and prioritize the barriers of sports tourism in urban public spaces. *Geography (Regional Planning)*, 6(4), 83–97.
- Patel, H., Denison, H., Teesdale-spittle, P., & Dennison, E. (2018). Understanding the Barriers and Enablers to Sporting Activity in Relation to Bone Health : A Qualitative Narrative Study among Adolescents and Young Adults in New Zealand. *Journal of Osteoporosis & Physical Activity*, 8(2), 1–7. <https://doi.org/10.35248/2329-9509.20.8.220>
- Rech, C. R., Camargo, E. M. de, Araujo, P. A. B. de, Loch, M. R., & Reis, R. S. (2018). Perceived barriers to leisure-time physical activity in the brazilian population. *Revista Brasileira de Medicina Do Esporte*, 24(4), 303–309. <https://doi.org/10.1590/1517-869220182404175052>
- Ronkainen, N. J., Pesola, A. J., Tikkanen, O., & Brand, R. (2021). Continuity and Discontinuity of Sport and Exercise Type During the COVID-19 Pandemic. An Exploratory Study of Effects on Mood. *Frontiers in Psychology*, 12(February), 1–10. <https://doi.org/10.3389/fpsyg.2021.622876>
- Rosselli, M., Ermini, E., Tosi, B., Boddi, M., Stefani, L., Toncelli, L., & Modesti, P. A. (2020). Gender differences in barriers to physical activity among adolescents. *Nutrition, Metabolism, and Cardiovascular Diseases: NMCD*, 30(9), 1582–1589. <https://doi.org/10.1016/J.NUMECD.2020.05.005>
- Sabharwal, A., & Sabharwal, M. (2018). Perceived Barriers of Young Adults for Participation in Physical Activity. *Current Research in Nutrition and Food Science Journal*, 6(2), 437–449. <https://doi.org/10.12944/CRNFSJ.6.2.18>
- Salcinovic, B., Drew, M., Dijkstra, P., Waddington, G., & Serpell, B. G. (2022). Factors Influencing Team Performance: What Can Support Teams in High-Performance Sport Learn from Other Industries? A Systematic Scoping Review. *Sports Medicine - Open*, 8(1), 25. <https://doi.org/10.1186/s40798-021-00406-7>
- Sharma, G. (2017). Pros and cons of different sampling techniques. *International Journal of Applied Research*, 3(7), 749–752.
- Smith, M. B., Gill, D. L., & Reifsteck, E. J. (2020). An Intervention to Support Collegiate Student-Athletes in the Transition to Meaningful Lifetime Physical Activity. *Case Studies in Sport and Exercise Psychology*, 4(1), 75–83. <https://doi.org/10.1123/CSSEP.2019-0038>
- Somerset, S., & Hoare, D. J. (2018). Barriers to voluntary participation in sport for children: A systematic review. *BMC Pediatrics*, 18(1). <https://doi.org/10.1186/s12887-018-1014-1>
- Taherdoost, H. (2016). Sampling Methods in Research Methodology; How to Choose a Sampling Technique for Research. *SSRN Electronic Journal*, 5(2), 18–27. <https://doi.org/10.2139/ssrn.3205035>
- Tikon, B., Oyekunle Olusegun, A., Hannaniah, N., . L., Sana'ah, S., & . H. (2019). Personal and Team Factors as Determinant of Team Performance Satisfaction of El-Kanemi Warriors Football Club in Nigeria Premier League. *International Journal of Scientific and Research Publications (IJSRP)*, 9(2), p8654. <https://doi.org/10.29322/IJSRP.9.02.2019.p8654>

Vahdani, M., Sheikhyousefi, R., Moharramzadeh, M., Ojaghi, A., & Salehian, M. H. (2012). Relationship between Coach's Leadership Styles and Group Cohesion in the teams participating in the 10 th Sport Olympiad of male Students. *European Journal of Experimental Biology*, 2(4), 1012-1017.