TECHNIUM
SOCIAL SCIENCES JOURNAL

Vol. 33, 2022

A new decade for social changes

www.techniumscience.com

ISSN 2668-7798

TECHNIUM SOCIAL SCIENCES JOURNAL

Technium Social Sciences Journal
Vol. 33, 227-236, July, 2022
ISSN: 2668-7798
www.techniumscience.com

Physical Self-Concept and Physical Activity Levels between Physical Education Major and Non-Physical Education Major College Students

Joanne D. Gorospe[1], Veronica C. Ferrer[2]

[1, 2]College of Teacher Education, Occidental Mindoro State College, San Jose, Occidental Mindoro, Philippines 5100

joannedgorospe@gmail.com, vcferrer_12@yahoo.com

Abstract. The study was designed to examine differences in physical self-concept and physical activity between physical education major and non-physical education major college students. Physical self-description and physical activity questionnaires were administered to 161 students. The Physical Self-Description Questionnaire (PSDQ) has 11 factors namely, action, appearance, body fat, coordination, endurance, flexibility, health, sport, strength, global physical, and global esteem. In the main effect, it was found that physical education major and non-physical education major students vary in the levels of their physical self-concept. Physical education majors were found to have higher physical self-concept in terms of action, coordination, endurance, sport, strength, and global esteem. Similarly, the physical education major and non-physical education major students differ in the levels of their physical activity. Among the 11 factors of physical self-concept, sport best predicts the level of physical activity of the students.

Keywords. physical self-concept, physical activity, physical education, physical and non-physical education major students

Introduction

It is believed that having positive self-perceptions of one's body and overall physical self has shown to have potentially powerful effects on health. For instance, positive physical self-appraisals can reduce the risk for depression (Blashill & Wilhelm, 2013). One of the components of self-perception is physical self-perception which is defined as the individual's perception of self in terms of body strength, attractiveness, and other aspects related to the physical domain. It was found in many studies that physical self-perception is important for health-related behaviors in populations of different ages especially among the young (Li et al., 2015).

According to Mehdinezhad and Golsanamlou (2014), self-concept refers to the individual's assessment of his or her qualifications, attributes, and features that are comparable with others. There are different types of self-concept and one of which is physical self-concept. Hagger et al. (2005) suggest that there is a relationship between the physical self-concept

component and physical activity and sports-related behaviors. A person's concept of himself physically will determine participation in physical activities and sports. This means that someone who has a positive physical self-concept will be more physically active and those who involve in physical activity will have a high physical self-concept (Arazi & Hosseini, 2013).

Shavelson et al. (1976) initially conceptualized a hierarchical and multidimensional model of self-concept, which set the stage for sport and exercise psychology researchers to systematically investigate physical self-concept. According to Garn et al. (2016), one would expect strength self-concept to be the most responsive self-concept facet to improvements on a strength task. This study is anchored on achievement goal theory which was developed by researchers who were interested in examining the effects of perceptions of success and failure on motivation in educational contexts (Nicholls, 1989). Central to the theory is the manner in which people tend to view or interpret success or failure when engaged in competence-relevant behaviors. Research in achievement goal perspectives had identified two pervading orientations. One is self-referenced goal orientation which tends to view success and failure in terms of personal improvement, effort, self-referenced goals, and learning. Another one is performance-oriented or other-referenced goal orientations which tend to view their success and failure in terms of their performance compared to others, fulfilling normative standards, other-referenced goals, competition, and normative comparison (Hagger et al., 2011).

The decrease in movement behavior commonly occurs in university students since they usually take one physical education subject in a semester, except for students in the physical education major. According to Hagger et al. (2005), physical self-concept can be a predictor of the motivation tendency of one's physical activity participation. Thus, there may be differences in the physical self-concept of students when the number of physical education courses they take is considered. In fact, Chung (2003) has found out that physical education major students, who usually spend more time on physical activity and sports training, tend to have better fitness and skill-oriented self-concept than their counterparts. Moreover, Vincent (2013) has also found in her study that physical education major participants in high school competitive athletic programs were found to have significantly higher self-concept than all other groups who are non-physical education majors.

Baghurst et al. (2016) mentioned that it is logical that physical education students in teacher education should seek to model the positive benefits of engaging in a healthy lifestyle in terms of positive affect, physique, and physical health to motivate students for lifelong health and exercise. Further, during training, this modeling should be present as it provides them with the knowledge necessary to evaluate what appropriate levels of physical activity they need when they become professionals.

As physical self-concept is believed to be an important correlate of fundamental movement skills proficiency since it has been reported that children with higher physical self-concept display better skill performance than those with lower physical self-concept (Yu et al., 2016), this factor may be considered in studying proficiency in the fundamental movement skills of students who are either majoring in physical education or not.

Despite the limitations of the current study, findings will be expected to add to the current understanding of physical self-concept and physical activity of the students as self-concept is relevant to both health-enhancing psychological characteristics and behavior in the youth (Garn et al., 2016). Although there are still questions about the malleability of physical self-concept, targeting both physical self-concept and physical activity in programs and interventions are likely to be more efficient at creating enhancements than focusing on one or the other (Kavanaugh et al., 2014).

Technium Social Sciences Journal
Vol. 33, 227-236, July, 2022
ISSN: 2668-7798
www.techniumscience.com

In addition, it is expected that the results of the study will provide the basis for interventions that will aim at improving the physical self-concept of students and behavioral strategies could be established for creating interventions that increase self-concepts across a variety of contexts. Consequently, from a self-enhancement perspective, higher physical self-concepts are expected to produce increased future levels of physical activity for both physical education major and non-physical education major students.

Objectives

Generally, this paper aimed to determine physical self-concept and physical activity level between physical education major and non-physical education major college students. More specifically, this study aimed to:

1. determine the level of physical self-concept of the physical education major college students in terms of action, appearance, body fat, coordination, endurance, flexibility, health, sport, strength, global physical and global esteem;
2. determine the level of physical self-concept of the non-physical education major college students in terms of action, appearance, body fat, coordination, endurance, flexibility, health, sport, strength, global physical, and global esteem;
3. identify the level of physical activity of the physical education major college students;
4. identify the level of physical activity of the non-physical education major college students;
5. test if there is a significant difference between the levels of physical self-concept of the physical education major and the non-physical education major college students;
6. find out if there is a significant difference between the physical activity levels of the physical education major and the non-physical education major college students; and
7. analyze which among the factors of physical self-concept best predicts the physical activity level of the physical education students.

Methodology

Taking into account the nature of this study, descriptive design was employed to investigate the difference between the levels of physical self-concept and physical activity of the physical education and non-physical education major students. This study is also predictive in nature as it attempted to find out which of the factors of physical self-concept best predicts the physical activity level of the physical education students.

Respondents of the study were all the sophomore students in the College of Teacher Education of Occidental Mindoro State College which consist the 43 students majoring in physical education and 118 students who are non-physical education major. Instruments in gathering the needed data from the respondents were survey questionnaires which underwent validity and reliability tests.

Descriptive statistics such as frequency distribution and mean were used to assess the levels of physical self-concept and physical activity of the physical education and non-physical education major students. To determine if the physical education and non-physical education major students vary in the levels of their physical self-concept and physical activity, t-test analysis was used. Lastly, to find out which of the factors of physical self-concept best predicts

Technium Social Sciences Journal
Vol. 33, 227-236, July, 2022
ISSN: 2668-7798
www.techniumscience.com

the physical activity level of the physical education students, it was measured using the multiple regression analysis.

Results and Discussion

Physical Self-Concept of the Physical Education Major College Students

Table 1 presents the level of physical self-concept of the physical education major college students. As shown, the level of physical self-concept of the students is moderate (3.30). This implies that the students' perception of themselves in areas of physical ability and appearance is at a moderate level.

As reflected in the table, it can be noted that the highest mean was garnered by the indicator global physical (4.05) which denotes the physical activity participation in three settings (or domains) as well as sedentary behavior of the students who are physical education major is quite high. On the other hand, the lowest mean was gained by the indicator flexibility (2.84). This means that the students' ability on the range of movement in a joint or series of joints, and length in muscles that cross the joints to induce a bending movement or motion is at a moderate level.

The process of formation of physical self-concept can be considered to be inherent to this age and can also influence physical-sports habits that, at the same time, will influence the physical aspect and the state of adolescent health (Balsalobre et al., 2014).

Table 1. Level physical self-concept of the physical education major college students.

Physical Self-Concept	Mean	Interpretation
Action	3.39	Moderate
Appearance	3.16	Moderate
Body fat	3.18	Moderate
Coordination	3.66	High
Endurance	2.87	Moderate
Flexibility	2.84	Moderate
Health	3.13	Moderate
Sport	3.13	Moderate
Strength	3.55	High
Global physical	4.05	High
Global esteem	3.29	Moderate
Overall Mean	**3.30**	**Moderate**

Scale: 1.00 - 1.49 – Very Low *1.50 - 2.49 – Low* *2.50 - 3.49 – Moderate*
3.50 - 4.49 – High *4.50 - 5.00 – Very High*

Physical Self-Concept of the Non-Physical Education Major College Students

Technium Social Sciences Journal
Vol. 33, 227-236, July, 2022
ISSN: 2668-7798
www.techniumscience.com

According to Balsalobre et al. (2014), the physical self-concept plays a key role in the development of the level of physical fitness which can allow or cannot allow the realization of certain types of activities within a specified period of time and which can increase the positive influence it will have on the person's health.

Shown in Table 2 is the level of physical self-concept of the non-physical education major college students. Though interpreted as also moderate (2.83), it can be noted that the mean is lower when compared to those students who are physical education majors. The non-physical education major college students are noted to have a low level of physical self-concept, especially on the factors endurance (2.25) and sport (2.13).

The use of self-concept measures less germane to the strength task or global measures is theorized to lead to an underestimation of true relations between self-concepts and other constructs. Examination of physical self-concept and strategically targeted subdomains may provide a more efficient approach for creating health-enhancing interventions specifically focused on specific physical subdomains such as fitness enhancement or weight/body fat reductions (Garn et al., 2016).

Table 2. Level physical self-concept of the non-physical education major college students.

Physical Self-Concept	Mean	Interpretation
Action	2.58	Moderate
Appearance	2.88	Moderate
Body fat	3.03	Moderate
Coordination	3.02	Moderate
Endurance	2.25	Low
Flexibility	2.55	Moderate
Health	3.05	Moderate
Sport	2.13	Low
Strength	2.80	Moderate
Global physical	3.80	High
Global esteem	3.03	Moderate
Overall Mean	**2.83**	**Moderate**

Scale: 1.00 - 1.49 – Very Low *1.50 - 2.49 – Low* *2.50 - 3.49 – Moderate*
3.50 - 4.49 – High *4.50 - 5.00 – Very High*

Physical Activity of the Physical Education Major College Students

The importance of physical activity and its impact on various aspects of students' physical, mental and psychological, educational institutions, and higher education should be paid serious attention (Mehdinezhad & Golsanamlou, 2014).

Table 3 shows the level of physical activity of the physical education major college students. With a mean of 3.51, the students have shown a high level of physical activity. It is

Technium Social Sciences Journal
Vol. 33, 227-236, July, 2022
ISSN: 2668-7798
www.techniumscience.com

reported that physical education students and athletes had invested heavily in their sports performance (Arazi & Hosseini, 2013). This is due to the fact that students who major in physical education are provided more physical activities through their curriculum than students who do not take physical education as their major (Balsalobre et al., 2014).

Table 3. Level physical activity of the physical education major college students.

Physical Activity	Mean	Interpretation
	3.51	High

Scale: 1.00 - 1.49 – Very Low; 1.50 - 2.49 – Low; 2.50 - 3.49 – Moderate; 3.50 - 4.49 – High; 4.50 - 5.00 – Very High

Physical Activity of the Non-Physical Education Major College Students

Table 4 depicts the level of physical activity of the non-physical education major college students. As shown, with a mean of 2.22, the non-physical education major college students have a low level of physical activity. This may be associated with the fact that the only subject that would require them to the more physical activity is their one physical education subject.

Similarly, the physical activity study of Sultoni et al. (2017) showed that the majority of the respondents did not participate in regular physical activity. This condition should be a warning since this period should be a productive period for the students to do various activities and fulfil task demands. Therefore, there is a need to address the low awareness of physical activity through the cultivation of an active lifestyle among these students to maintain physical fitness.

Table 4. Level physical activity of the non-physical education major college students.

Physical Activity	Mean	Interpretation
	2.22	Low

Scale: 1.00 - 1.49 – Very Low; 1.50 - 2.49 – Low; 2.50 - 3.49 – Moderate; 3.50 - 4.49 – High; 4.50 - 5.00 – Very High

Significant Difference between the Levels of Physical Self-Concept of the Physical Education Major and the Non-Physical Education Major College Students

t-test analysis between the levels of physical self-concept of the physical education major and the non-physical education major college students is shown in Table 4. The results show that there is a significant difference between physical education major and non-physical education major students in physical self-concept in overall (p=.000) and in the six dimensions namely, action (p=.000), coordination (p=.000), endurance (p=.002), sport (p=.000), strength (p=.000), and global esteem (p=.015). This means that students who are taking physical education as their major tend to have a more positive assessment of their individual physical qualifications, attributes, and features that are comparable with others.

Technium Social Sciences Journal
Vol. 33, 227-236, July, 2022
ISSN: 2668-7798
www.techniumscience.com

The results imply that physical education major students have a positive understanding of their physic in comparison with non-physical education major students (Mehdinezhad & Golsanamlou, 2014). This supports the study of Vincent (2013) which also found out that physical education major participants were found to have significantly higher self-concept than all other groups who are non-physical education majors.

Increasing overall self-worth through a positive change in physical self-concept does not automatically result from participation in physical activity programs but such programs can be utilized to incrementally improve the physical self-concept perceptions of the individual (Arazi & Hosseini, 2013). In this sense, a link between the physical education major college students' greater physical endurance, coordination, and reflexes could in turn generalize to a higher level of physical self-concept than students who are non-physical education majors.

Table 5. t-test analysis between the levels of physical self-concept of the physical education major and the non-physical education major college students.

Indicators	F	t-value	p-value	Interpretation
Action	.024	4.806	.000	Significant
Appearance	4.092	1.405	.163	Not significant
Body fat	1.649	.626	.533	Not significant
Coordination	.462	3.863	.000	Significant
Endurance	.101	3.197	.002	Significant
Flexibility	.124	1.880	.063	Not significant
Health	.570	.539	.591	Not significant
Sport	2.361	5.511	.000	Significant
Strength	1.129	4.221	.000	Significant
Global physical	8.894	1.291	.200	Not significant
Global esteem	12.201	2.484	.015	Significant
Physical self-concept	**6.321**	**3.757**	**.000**	**Significant**

Significant Difference between the Physical Activity Levels of the Physical Education Major and the Non-Physical Education Major College Students

To determine whether physical education majors and non-physical education major college students differ in the levels of their physical activity, an analysis of their responses was done. Based on the results, as shown in Table 6, the two groups of students vary in their levels of physical activity (p=.000). That is, physical education major students have a higher level of physical activity than that students who are non-physical education majors.

Technium Social Sciences Journal
Vol. 33, 227-236, July, 2022
ISSN: 2668-7798
www.techniumscience.com

It is hypothesized that physical education majors are more aware of the many health benefits of exercise compared to non-physical education majors. This could be a result of physical educators, coaches, and other professionals in fitness and physical activity who carry strong modeling status among students, especially those who are physical education majors (Baghurst et al., 2016).

Table 6. t-test analysis between the levels of physical activity of the physical education major and the non-physical education major college students.

Physical activity	F	t-value	p-value	Interpretation
	.553	6.241	.000	Significant

Factor of Physical Self-Concept that Best Predicts the Physical Activity Level of the Physical Education Students

It can be expected that individuals with positive physical self-concept may be more active and those involved in physical activity may have a higher physical self-concept. In this sense, an investigation conducted by Arazi and Hosseini (2013) found that more favorable perceptions of one's physical capacity contribute to an increase in levels of participation in physical activity.

Meanwhile, the physical self-concept that is owned by someone will influence their involvement in physical activity. When a person's views about their physical appearance and abilities are positive, their tendency to do physical activity will be higher. For that reason, physical self-concept has an important role to increase active participation in physical activity (Sultoni et al., 2017).

Table 7. Regression analysis between physical self-concept and physical activity of physical education students.

Independent Variable (Physical Self-Concept)	Dependent Variable	Beta Coefficient	p-value	Interpretation
Action		.112	.275	Not significant
Appearance		-.002	.981	Not significant
Body fat	Physical	.101	.203	Not significant
Coordination	activity	.191	.069	Not significant
Endurance		.031	.778	Not significant
Flexibility		.097	.296	Not significant

Technium Social Sciences Journal
Vol. 33, 227-236, July, 2022
ISSN: 2668-7798
www.techniumscience.com

Health	-.084	.316	Not significant
Sport	.321	.002	Significant
Strength	.153	.160	Not significant
Global physical	-.048	.595	Not significant
Global esteem	.082	.362	Not significant

In this paper, regression analysis between physical self-concept and physical activity of physical education students was done to identify which among the factors of physical self-concept best predicts the level of students' physical activity. As reflected in Table 7, the sport was found to be the best predictor of students' level of physical activity (p=.002).

This means that the higher the level of self-concept of the students in terms of sports, the more likely that they will have a higher level of physical activity. It was reported that physical education students who had invested heavily in their sports performance reveal a strong relationship to the physical activity of students (Arazi & Hosseini, 2013).

Conclusion

Based on the findings of the study, the following conclusions were drawn. Both the physical education major and the non-physical education major college students have a moderate level of perception or evaluation of their physical ability and physical appearance. The physical education major college students do more movements including during leisure time or for transport to get to and from places than the non-physical education major college students who have a low level of physical activity. They also differ in their levels of physical self-concept. Moreover, sport best predicts the physical activity level of the physical education students.

Recommendation

The discussion above leads to the following recommendations. Additional investigation of the physical self-concept among students is suggested to provide a more holistic view of the change in how they view themselves physically. It is suggested to have interventions that promote self-concept which include explicit strategies that help students make positive self-evaluations addressing the mental and physical health challenges currently facing students. The importance of physical activity and its impact on physical, mental, and psychological aspects of students should be paid serious attention to, especially among non-physical education majors. A consideration for future research is to advance the theoretical links between physical self-concept and physical activity with combined quantitative and qualitative methodologies. Perhaps then we will understand the antecedents and consequences of the physical self and the specific roles of physical activity that were not fully explained in this paper.

References

[1] Li, R., Bunke, S., Psouni, E. (2015). Attachment relationships and physical activity in adolescents: The mediation role of physical self-concept, Psychology of Sport & Exercise, doi:10.1016/j.psychsport.2015.07.003

[2] Mehdinezhad, V. & Golsanamlou, M. (2014). Influence of physical activity on students' physical self-concept and satisfaction with life: Physical and nonphysical

education students' perspective. Turkish Journal of Sport and Exercise, 16 (2), 77-83 DOI: 10.15314/TJSE.201428109

[3] Arazi, H. & Hosseini, R. (2013). A comparison of physical self-concept between physical education and non-physical education major students. Timisoara Physical Education and Rehabilitation Journal, 5(10), 6-13.

[4] Shavelson, R., Hubner, J., & Stanton, G. (1976). Validation of construct interpretations. Review of Educational Research, 46, 407–441.

[5] Garn, A.C., Morin, A.J.S., Martin, J., Centeio, E., Shen, B., Kulik, N., Somers, C., & McCaughtry, N. (2016). A reciprocal effects model of children's body fat self-concept: Relations with physical self-concept and physical activity. Journal of Sport and Exercise Psychology, 38, 255–267. doi 10 1123/jsep. 2015-0255.

[6] Nicholls, J. G. (1989). The competitive ethos and democratic education. Cambridge, MA: Harvard University Press.

[7] Hagger, M., Hein, V., & Chatzisarantis, N. (2011). Achievement goals, physical self-concept, and social physique anxiety in a physical activity context. Journal of Applied Social Psychology, 41(6), 1299–1339.

[8] Hagger, M., Biddle, S., & John Wang, C. (2005). Physical self-concept in adolescence: Generalizability of a multidimensional, hierarchical model across gender and grade. Educational and Psychological Measurement, 65(2), 297–322. https://doi.org/10.1177/0013164404272484

[9] Chung, P. (2003). Physical self-concept between PE major and non-PE major students in Hong Kong. Journal of Exercise Science and Fitness, 1(1), 41-46.

[10] Vincent, M. (2013). Comparison of self-concepts of college women: Athletes and physical education majors. Research Quarterly. American Alliance for Health, Physical Education and Recreation, 47 (2), 218-225. https://doi.org/10.1080/10671315.1976.10615365

[11] Baghurst, T., Richard, K., Mwavita, M., & Ramos, N. (2016). Procedures and reasoning for skill proficiency testing in physical education teacher education programs. Cogent Education, 2(1), 1-12. https://doi.org/10.1080/2331186X.2015.1111716

[12] Yu, J., Sit, C., Capio, C., Burnett, A., Ha, A. & Huang, W. (2016). Fundamental movement skills proficiency in children with developmental coordination disorder: does physical self-concept matter?, Disability and Rehabilitation, 38(1), 45-51, DOI: 10.3109/09638288.2015.1014067

[13] Kavanaugh, K., Moore, J., Hibbett, L., & Kaczynski, A. (2014). Correlates of subjectively and objectively measured physical activity in young adolescents. Journal of Sport and Health Science. Retrieved from: http://www.sciencedirect.com/science/article/pii/S209525461400060X

[14] Balsalobre, F., Sánchez, G., Suárez, A. (2014). Relationships between physical fitness and physical self-concept in Spanish adolescents. Procedia - Social and Behavioral Sciences. 132, 343-350.

[15] Sultoni, K., Jajat, & Fitri, M. (2017). Health-related fitness knowledge and its relation to college student physical activity. In IOP Conf. Series. Materials Science and Engineering. 180, 1-4). https://doi.org/10.1088/1742-6596/755/1/011001.