http:// ijp.mums.ac.ir
Original Article (Pages: 15623-15629)

The correlation of Autonomy Support with Intrinsic Motivation, Anxiety, and Intention to Do Physical Activities in Children

* Maryam Abdoshahi [1], Amin Gholami [2], Malihe Naeimikia [3]

[1] Department of Motor Behavior, Faculty of Sport Science, Alzahra University, Tehran, Iran.

[2] Assistant professor at Department of Motor Behavior, Sport Sciences Research Institute, Tehran, Iran.

[3] Assistant professor at Department of Motor Behavior, Sport Sciences Research Institute, Tehran, Iran.

Abstract

Background: The purpose of the present study was to investigate the association of autonomy-based teaching style in physical education with intrinsic motivation, social anxiety, and tendency to perform physical activities among primary school children.

Methods: The present study used a descriptive-correlational design with 384 children (192 boys; mean age of 10.01 years) from the regular primary schools of Tehran, 2019. Data was collected by the use of standard questionnaires. Pearson correlation test and regression analysis were used to examine the associations between variables and independent t-test was used to analyze gender differences.

Results: The boys had higher scores than the girls in perceived autonomy support, intrinsic motivation, and intention to physically perform activities. However, the girls felt higher social anxiety than boys. The results showed that perceived autonomy support had a positive association with intrinsic motivation (P=0.000), which subsequently was associated with intention to do physical activity in the physical education class (P=0.000). Moreover, the boys reported higher perceived autonomy support (P=0.000), more intrinsic motivation (P=0.000) and intention to do physical activities (P=0.000) than girls, however, girls reported higher levels of social anxiety in physical education class (P=0.000). Finally, social anxiety was inversely associated with intention to do physical activity (P=0.049).

Conclusions: These findings show that physical education teachers should encourage the perceptions of the students about their control in the physical education class, so that the students experience more autonomy.

Key Words: Autonomy, Anxiety, Children, Motivation, Physical activity.

* Please cite this article as: Abdoshahi M, Gholami A, Naeimikia M. The correlation of Autonomy Support with Intrinsic Motivation, Anxiety, and Intention to Do Physical Activities in Children. Int J Pediatr 2022; 10 (3):15623-15629. DOI: **10.22038/IJP.2022.63021.4810**

Corresponding Author:

Maryam Abdoshahi, Department of Motor Behavior, Faculty of Sport Science, Alzahra University, Tehran, Iran.
Email: m.abdolshahi@alzahra.ac.ir

Received date: Jan.17,2022; Accepted date:Feb.9,2022

1- INTRODUCTION

The concept of physical education is generally understood as the organization of some games, sports or physical education activities in schools. Physical education comprises holistic education for the development of personality of the child to its perfection in body, mind and spirit through engaging in regular physical activities (1-2). Thus, it is logical to assume physical education as a potential environment for increasing children's participation in physical activity. Therefore, due to many benefits that regular physical activity has for children's health (3-6), physical education has become one of the most important research topics in the field of pediatrics and schooling. In the meantime, the role of physical education teachers in motivating children to participate in sports activities in the classroom is very important. To achieve this goal, the physical education teacher must adopt an appropriate teaching style to create an appropriate motivating environment for students to increase their motivation within the physical education class (7-8). One of the styles that a physical education teacher can choose is the autonomous teaching style.

Autonomy is recognized as one of the basic psychological needs in the theory of self-determination (9-13). Autonomy refers to the need to experience freedom to perform the behavior, make decisions, and become independent in performing the activities and tasks. It has been shown that satisfaction of autonomy is related to enhancing the autonomous motivation, while its thwarting is associated with decreasing the autonomous motivation in a wide range of behaviors (1, 7, 14-15). Some studies have also shown that autonomy-based exercise interventions increase motivation and physical activity in young people (16-19). However, very few studies have examined this issue within physical education classes, especially among children. Accordingly, the objective of the present study was to investigate the association between a teaching style based on autonomy with motivation and intention to do physical activities within a physical education class among primary school children.

Some studies have demonstrated that the autonomy-based teaching style can be associated with reducing anxiety in the physical education class (20-21). Anxiety is a feeling of fear, dread, and uneasiness. It might cause you to sweat, feel restless and tense, and have a rapid heartbeat (22). Within the physical education context, students are usually exposed to some social anxiety due to their classmates' and physical educators' viewpoints/evaluations about them. On the other hand, childhood is a very critical period in ones' development, during which children are greatly influenced by the others' evaluations of them. Moreover, due to the fact that children execute sport activities publicly within the physical education class, it can be assumed that the anxiety related to child's appearance and competence may be highly salient (20). Such a social anxiety for girls can be higher than that for boys, due the body changes in puberty which have been shown to cause body dissatisfaction and social anxiety among girls. Therefore, another aim of this study was to investigate the association of the autonomy-based teaching style with reducing the students' social anxiety. Altogether, the purpose of this study was to investigate the correlation of autonomy-based teaching style in the physical education class with intrinsic motivation, social anxiety, and intention to perform physical activities among the primary school children. Based on self-determination theory, it was hypothesized that the autonomy-based teaching style in physical education is directly associated with motivation and intention to do physical activities and inversely associated

with social anxiety in primary school children.

2- METHODS

2-1. Participants

The present descriptive-correlational study was performed on the primary school students of Tehran, Iran, in 2019. The participants were 384 children (192 boys and 192 girls) aged 9 to 11 years (mean age of 10.01 years) who were selected through convenience sampling.

2-2. Instruments

2-2.1 Perceived autonomy support

Perceived autonomy support was assessed through five questions adopted from Hagger et al. (23). The questions were scored on a Likert scale from strongly disagree (1) to strongly agree (7). We measured the reliability of this questionnaire with a Cronbach's alpha coefficient of 0.88.

2-2.2. Intrinsic Motivation

In this study, intrinsic motivation was measured by using four questions adopted from Pelletier et al. (24). The questions were scored on a Likert scale from completely disagree (1) to completely agree (7). We measured the reliability of this questionnaire with a Cronbach's alpha coefficient of 0.90.

2-2.3. Social Anxiety

Social anxiety was measured by four questions adopted from Gairns et al. (20). The questions were scored on a Likert scale from no concern at all (1) to extreme concern (5). In the present study, the Cronbach's alpha coefficient of this questionnaire was 0.96.

2-2.4. Intention to Do Physical Activity

The intention to perform physical activities was measured by using two questions adopted from Hagger et al. (23). The questions were scored on a Likert scale from strongly disagree (1) to strongly agree (7). In this study, we measured the reliability of this questionnaire and its Cronbach's alpha coefficient was 0.84.

2-3. Data Analysis

In this study, means and standard deviations were used for describing the research variables. Independent t-test was used to calculate gender differences. Pearson correlation test was applied to measure the associations between the research variables. Finally, regression analysis was performed to compute whether autonomy predicts intrinsic motivation, social anxiety, and intention to do physical activity. The significance level was set at $P < 0.05$.

3- RESULTS

3-1. Gender Differences

Table 1 shows the means and standard deviations of the research variables. It shows that boys and girls were at almost the same age. Moreover, boys had higher scores than girls in perceived autonomy support, intrinsic motivation, and intention to do physical activity. However, girls felt higher social anxiety than boys. The results of an independent t-test showed that boys had significantly higher perceived autonomy support, intrinsic motivation, and intention to do physical activity than girls. However, girls had significantly higher social anxiety than boys.

3-2. Bidirectional Associations

Results of Pearson correlation tests are presented in **Table 2**. The results showed that perceived autonomy support is significantly associated with intrinsic motivation, social anxiety, and intention to do physical activity (all $P<0.05$). Moreover, intrinsic motivation was significantly associated with intention to do physical activities ($P<0.05$). Finally, social anxiety was inversely associated with intention to do physical activities ($P<0.05$).

Table-1: Mean and standard deviations of research variables across boys and girls

Children	Age (Years Old)	Perceived Autonomy Support	Motivation	Social Anxiety	Intention
Boys	9.96 ± 0.77	4.10 ± 0.88	4.20 ± 0.81	3.49 ± 0.87	4.23 ± 0.89
Girls	10.02 ± 0.75	3.43 ± 0.93	3.54 ± 0.85	4.08 ± 0.89	3.50 ± 0.88
t	-0.732	7.184	7.646	-6.573	7.949
P	0.465	0.000	0. 000	0.000	0. 000

Table-2: Results of Pearson correlation tests between research variables

	1	2	3	4
1. Perceived Autonomy Support	-			
2. Intrinsic Motivation	r=0.922 P=0.000	-		
3. Social Anxiety	r=-0.106 P=0.038	r=-0.118 P=0.020	-	
4. Intention to Do Physical Activities	r=0.934 P=0.000	r=0.916 P=0.000	r=-0.099 P=0.049	-

3-3. Regression Analysis

Linear regression analyses showed that perceived autonomy support significantly predicted intrinsic motivation (F=2177.87, p=0.000, Adjusted R^2=0.85, β=0.922). Intrinsic motivation significantly predicted the intention to do physical activities (F=1988.93, p=0.000, Adjusted R^2=0.83, β=0.916), and perceived autonomy support inversely predicted social anxiety (F=4.34, p=0.03, Adjusted R^2=0.01, β=-0.106).

4- DISCUSSION

Physical education can be considered as a potential environment for increasing children's participation in physical activity, which can subsequently result in various health benefits. In the meantime, it is very important to adopt an appropriate teaching style to create an appropriate motivating environment for students to increase engagement in class activities. Accordingly, the objective of the present study was to investigate the associations between autonomy-based teaching style in physical education with intrinsic motivation, social anxiety, and intention to do physical activities among primary school children. This research was based on the theoretical foundations of self-determination theory (9-13).

The results showed that perceived autonomy support is directly associated with intrinsic motivation in physical education. Subsequently, intrinsic motivation is directly associated with intention to do physical activities. These results are consistent with the results of previous research (1, 7, 14-19). Intrinsic motivation plays an important role in individuals' engagement in physical activities, because it exists in the absence of any external motivation (9-13). Thus, as the intrinsic motivation in physical education is enhanced, the students are assumed to be more engaged in class activities. It might be possible that through enhancing autonomy support in physical education, students feel a sense of control over their actions, and this perception results in enhancing their competence and satisfaction, which consequently results in self-controlled participation in class activities (11-12). On the other hand, with

the lack of intrinsic motivation, the person always requires external motivating factors for participating in physical activity, and ultimately this cannot result in positive competence and satisfaction within the class. Based on the self-determination theory (9-13), the process of internalization (i.e., the process by which behaviors are emerging from an internal causal source instead of external sources) acts as the source of autonomous behaviors. Then, it can be assumed that physical educators can increase intrinsic motivation by providing guidelines and feedback which focus on self-directed learning along with giving the students the right to choose their exercises in class (14-19). With regard to gender differences, our findings confirm those of the previous studies (1-2) showing that the boys perceive higher levels of motivation and intention in the physical education class.

Another important finding of this study was that children who perceived themselves less motivated for their participation in physical education reported higher levels of social anxiety regarding the way in which they were evaluated by their teacher (20). So, it would be expected that those individuals may also be disposed to greater concern regarding their interactions with their teacher and classmates within the physical education class. These findings are in accordance with the results of previous studies (20-21). Furthermore, the results of gender analysis revealed that girls experienced higher levels of social anxiety within the physical education class. Moreover, social anxiety was inversely associated with intention to do physical activities. These findings indicate that social anxiety may act as a mechanism for lower participation of girls in physical activity in comparison to boys (20).

5- CONCLUSIONS

Based on our findings, it can be concluded that perceived autonomy support has a positive association with intrinsic motivation, which subsequently can increase the intention to do physical activities in the physical education class. Moreover, the boys reported a higher perceived autonomy support, more intrinsic motivation and intention to do physical activities than girls; however, the girls showed higher levels of social anxiety in the physical education class. Finally, social anxiety may act as a possible mechanism for the lower participation of girls in sport activities within the physical education class. These findings show that physical education teachers should encourage the students' autonomy in the physical education class, so that they can enjoy stronger perceptions of self-control.

6- ACKNOWLEDGMENTS

We are grateful to all students and their parents who participated in this study.

7- REFERENCES

1. Hosseini FB, Ghorbani S, Rezaeshirazi R. Effects of Perceived Autonomy Support in the Physical Education on Basic Psychological Needs Satisfaction, Intrinsic Motivation and Intention to Physical Activity in High-School Students. Int J School Health. 2020; 7(4), 39-46.

2. Ghorbani S, Noohpisheh S, Shakki M. Gender Differences in the Relationship between Perceived Competence and Physical Activity in Middle School Students: Mediating Role of Enjoyment. Int J School Health, 2020; 7(2), 14-20.

3. Piggin J. What Is Physical Activity? A Holistic Definition for Teachers, Researchers and Policy Makers. Frontiers in Sport & Active Living. 2020; 2:72.

4. Roychowdhury D. Using Physical Activity to Enhance Health Outcomes across the Life Span. J Funct Morphol Kinesiol. 2020; 5(1):2.

5. Marker AM, Steele RG, Noser AE. Physical Activity and Health-Related

Quality of Life in Children and Adolescents: A Systematic Review and Meta-Analysis. Health Psychol. 2018; 37:893-903.

6. Lahart I, Darcy P, Gidlow C, Calogiuri G. The Effects of Green Exercise on Physical and Mental Wellbeing: A Systematic Review. Int J Env Res Pub He.2019; 16(8):1352.

7. Gholidahaneh MG, Ghorbani S, Esfahaninia A. Effects of Basic Psychological Needs Satisfaction in the Physical Education on Leisure-Time Physical Activity Behavior of Primary School Students: Mediating Role of Autonomous Motivation. Int J Sch Health. 2020; 7(2):46-53.

8. Ghorbani S, Noohpisheh S, Shakki M. Gender Differences in the Relationship between Perceived Competence and Physical Activity in Middle School Students: Mediating Role of Enjoyment. Int J School Health, 2020; 7(2), 14-20.

9. Deci EL, Ryan RM. Intrinsic Motivation and Self-Determination in Human Behavior. New York: Plenum Press. 1985.

10. Deci EL, Ryan RM. What and Why of Goal Pursuits: Human Needs and the Self-Determination of Behavior. Psychol Inq. 2000; 11(4):227-268. doi: 10.1207/S15327965PLI1104-01.

11. Ryan RM, Deci EL. Overview of Self-Determination Theory: An Organismic Dialectical Perspective. In EL Deci, RM Ryan. (Eds.), Handbook of Self-Determination Research. 2002. (pp. 3-33).

12. Ryan RM, Deci EL. Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions. Contemp Educ Psychol. 2000; 25:54-67. DOI:10.1006/ceps.1999.1020.

13. Ryan RM, Deci EL. Self-Determination Theory: Basic Psychological Needs in Motivation, Development, and Wellness. New York: Guilford Publishing. 2017.

14. Lochbaum M, Jean-Noel J. Perceived Autonomy-Support Instruction and Student Outcomes in Physical Education and Leisure-Time: A Meta-Analytic Review of Correlates. RICYDE. 2016; 43:29-47.

15. Teixeira PJ, Carraca EV, Markland D, Silva MN, Ryan RM. Exercise, Physical Activity, and Self-Determination Theory: A Systematic Review. Int J Behav Nutr Phys Act. 2012; 9:78.

16. Sevil-Serrano J, Aibar A, Abós A, Generelo E, García-González L. Improving Motivation for Physical Activity and Physical Education through a School-Based Intervention. J Exp Educ.2020.

17. Cheon SH, Reeve J, Ntoumanis N. A Needs-Supportive Intervention to Help PE Teachers Enhance Students' Prosocial Behavior and Diminish Antisocial Behavior. Psychol Sport Exerc. 2018; 35:74-88.

18. Sfandyari B, Ghorbani S, Rezaeeshirazi R, Noohpisheh S. The Effectiveness of an Autonomy-Based Exercise Training on Intrinsic Motivation, Physical Activity Intention, and Health-Related Fitness of Sedentary Students in Middle School. Int J Sch Health. 2020; 7(1):40-47.

19. Sevil-Serrano J, Aibar A, Abós A, Generelo E, García-González L. Improving Motivation for Physical Activity and Physical Education through a School-Based Intervention. J Exp Educ.2020.

20. Gairns F, Whipp PR and Jackson B. Relational perceptions in high school physical education: teacher and peer-related predictors of female students' motivation, behavioral engagement, and social anxiety. Front. Psychol. 2015; 6:850.

21. Cox AE, Ullrich-French S, Madonia J, Witty K. Social physique anxiety in physical education: social contextual factors and links to motivation and behavior. Psychol Sport Exerc. 2011; 12: 555-562.

22. Hart EA, Leary MR, Rejeski WJ. The measurement of social physique anxiety. J Sport Exerc. Psychol. 1989; 11:94-104.

23. Hagger MS, Chatzisarantis NLD, Culverhouse T, Biddle SJH. The Process by Which Perceived Autonomy Support in Physical Education Promotes Leisure-Time Physical Activity Intentions and Behavior: A Trans-Contextual Model. J Educ Psychol.2003; 95:784-795.

24. Pelletier LG, Rocchi MA, Vallerand RJ, Deci EL, Ryan RM. Validation of the Revised Sport Motivation Scale (SMS-II). Psychol Sport Exerc. 2013; 14:329-341.