

Effects of the Social Climate of the Physical Education Class on Children's Participation in Physical Activities: The Mediating Role of Relatedness

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Abstract

Background: Positive social climate can influence academic performance, satisfactory cognitive and emotional results, and higher sport commitment. However, the social climate within the physical education class has rarely been investigated. The aim of this study was, therefore, to investigate the impact of social climate within the physical education class on the participation of children in physical activities, considering the mediating role of perceived relatedness.

Method: This study followed a descriptive-correlational method. 384 children (192 girls) attending regular primary schools participated voluntarily in this study. Mean age of participants was 10.37 ± 1.07 years-old. Standard questionnaires were used to measure the research variables. Data was analyzed by the use of Pearson correlation test, independent t-test, and structural equation modeling.

Results: Level of physical activity among children was almost low (2.10 ± 1.09). In addition, boys had significantly higher amounts of physical activity than girls ($t = -5.167$, $P < 0.001$). Social climate in the physical education class had significant effects on the participation of children in physical activity ($T = 6.366$). Also, perceived relatedness support was revealed to significantly affect physical activity ($T = 5.947$). In addition, perceived relatedness support significantly mediated the association between social climate and physical activity ($P < 0.001$).

Conclusion: Social climate, relatedness support, and physical activity are critical concerns for children. Thus, there is a need to make a social and supportive climate in the physical education class. This can be achieved by increasing the quality of contacts and friendship among students.

Key Words: Children, Physical Activity, Physical Education, Relatedness, Social Climate.

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1- INTRODUCTION

The World Health Organization (WHO) defines physical activity as any movement of the body produced by muscles and bones that is associated with energy expenditure (1-2). Several studies have demonstrated that participating in regular physical activity can promote a healthy lifestyle among children, adults, and elderly (3-4). Some benefits of participating in regular physical activity include increasing the physical and mental health and decreasing the possibility of being obese and its related diseases such as cardiovascular disease, diabetes, cancer, and osteoporosis, (1-8). Accordingly, WHO recommends that individuals must engage in at least 60 minutes of moderate-to-vigorous physical activity per day? Nevertheless, numerous studies have demonstrated that most children do not engage in the recommended physical activity (9). For example, Sallis et al. (10) found that only 20-25 percent of girls and 35 to 40 percent of boys meet the recommended physical activity (10). Similarly, Iranian boys and girls do not meet the recommended physical activity, too (3-4, 11-16). Thus, it can be assumed that during the past decades, research made a particular focus on physical activity of children. Besides investigating the current status of physical activity level in children, research focused on identifying factors influencing the participation of children in physical activities.

Due to the fact that children spend most of their time at school, it can play an important role in promoting the physical activity level of children. Within the school environment, physical education class is considered as a particular environment that can promote participation of children in physical activity inside and outside school (11). Research has shown that various factors (e.g., motivational climate, teaching style, parental support,

etc.) can affect engagement of students in the physical education activities (11-16). One of these factors is the social climate which has received little attention in the literature. Social climate refers to the perceptions of a social environment that tends to be shared by a group of people (17-21). Research has shown that a positive social climate can influence academic performance of school-students (17-18). In addition, a positive social climate was associated with various satisfactory cognitive and emotional results among children (19). In athletic sports, it has also been shown that a positive social climate was related to higher sport commitment (20). Yun et al. (21) has also found that social climate directly affects participation of individuals in physical activity. However, the social climate within the physical education class has rarely been investigated. Hence, the first purpose of this study was to investigate the impact of social climate within the physical education class on the participation of children in physical activities.

In addition, a possible mediator that might affect the impact of social climate on physical activity of school-students is perceived relatedness. Relatedness is a basic need in the self-determination theory (22-23) and refers to the experience of interpersonal relationships and reflects the extent of a person's sense of belonging to society, having caring relationships, and connection with significant others. In fact, relatedness is satisfied when a person feels connected with significant others while frustration of relatedness leads to a sense of social isolation and loneliness (22, 24). The second purpose of this study was to examine the mediating role of perceived relatedness in the impact of social climate within the physical education class on the participation of children in physical activities. In total, this study aimed at investigating the impact of social climate

within the physical education class on children's participation in physical activities with a consideration of the mediating role of perceived relatedness.

2- METHODS

This study followed a descriptive-correlational method. 384 children (192 girls) attending regular primary schools participated voluntarily in this study. Mean age of participants was 10.37 ± 1.07 years-old. Our participants were chosen by the use of a convenience sampling method. Social climate in the physical education was measured by the modified version of Caring Climate Scale (CCS; 25) with 13-item assessing the extent to which the students perceived their classmates in the physical education class to be interpersonally inviting, safe, supportive, and able to provide the experience of being valued and respected. Each question was scored on a Likert scale from strongly disagree (1) to strongly agree (5). The Cronbach's alpha reliability of this questionnaire was estimated as 0.91 in the present study. Physical activity was measured using Physical Activity Behavior in Leisure-Time Scale (11), containing three questions scored based on an eight-point Likert scale from zero days (0) to seven days (7). In the current study, Cronbach's alpha coefficient was estimated as 0.90. Finally, we used Basic

Psychological Needs Support in Physical Education (26) in order to measure perceived relatedness support in physical education classes. It contained three questions assessing the relatedness support which were scored on a Likert scale from strongly disagree (1) to strongly agree (7). In this study, the Cronbach's alpha coefficient of this questionnaire was estimated as 0.93. In order to analyze the data, we used descriptive analyses including means and standard deviations. Independent t-test was used for assessing gender differences. Pearson correlation test was used to measure bidirectional associations between social climate, physical activity, and perceived relatedness support. Finally, Structural Equation Modeling (SEM) using Lisrel software was performed to examine the impact of social climate on physical activity with the mediation of perceived relatedness support. The significance level was set at $P < 0.05$.

3- RESULTS

Means and standard deviations as well as associations between research variables are presented in **Table 1**. As it is observed, the level of physical activity among children was almost low. In addition, boys had significantly higher amounts of physical activity than girls ($t = -5.167$, $P < 0.001$).

Table-1: Descriptive statistics of the research variables

Variable	M±SD	1	2	3
1. Social Climate	3.41±0.94	-	-	-
2. Physical Activity	2.10±1.09	r=0.710 P<0.001	-	-
3. Relatedness	3.94±2.04	r=0.680 P<0.001	r=0.391 P<0.001	-

In addition, results of Pearson correlation test showed that social climate was significantly associated with physical activity ($r = 0.710$, $P < 0.001$) and perceived

relatedness support ($r = 0.680$, $P < 0.001$). In addition, perceived relatedness support was significantly associated with physical activity ($r = 0.391$, $P < 0.001$).

The results of SEM are presented in **Table 2** and **Fig. 1**, showing that social climate significantly affected physical activity ($T=6.366$) and perceived relatedness support ($T=4.084$). Also, perceived relatedness support significantly affected

physical activity ($T=5.947$). In addition, perceived relatedness support significantly mediated the association between social climate and physical activity ($P<0.001$). Finally, we found that our conceptual model had a very good fit ($RMSEA=0.06$).

Table-2: Results of structural equation modeling

No	Path	β	T-value
1	Social climate => Physical activity	0.408	6.366
2	Social climate => Relatedness	0.311	4.084
3	Relatedness => Physical activity	0.351	5.947
4	Social climate => Relatedness => Physical activity	$Z=5.617$	P-value $P<0.001$

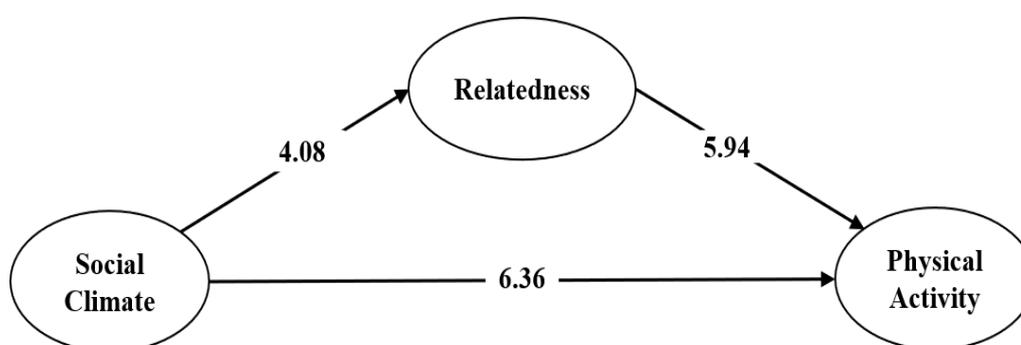


Fig. 1: Results of structural equation modeling

4- DISCUSSION

Research has shown that a positive social climate can influence academic performance (17-18), satisfactory cognitive and emotional results (19), higher sport commitment (20), and participation in physical activity (18). However, the social climate within the physical education class has rarely been investigated. The aim of this study was to investigate the impact of social climate within the physical education class on the participation of children in physical activity with the mediating role of perceived relatedness. First of all, it should be noted that the physical activity level of children was low, indicating that special attention and appropriate strategies are required to increase the level of physical

activity among children. Furthermore, boys had higher levels of physical activity than girls. These findings are consistent with those of the previous studies (3-4, 11-16).

Regarding social climate in the physical education class, our findings revealed that social climate in the physical education class had significant effects on the participation of children in physical activity. Furthermore, perceived relatedness support in physical education mediated the associations between social climate and physical activity, indicating the positive impact of perceived relatedness support on the participation of children in physical activities, as suggested in the previous studies (17-21). Perceive relatedness support often is increased in

climates with high levels of social support. Within the physical education context, increasing the quality of contacts and friendship among students, observing the success of students in engaging in physical and sport activities in class, experiencing physical and sport activities with classmates, being encouraged by classmates during the class, and receiving positive feedback from classmates on the way they engage in physical and sport activities are some of the situations that can make positive social climate in the class (22-24). Thus, we can assume that by making the climate in the class more socially, children might participate more in physical and sport activities within the class, which subsequently will lead to their physical and mental health.

5- CONCLUSIONS

In sum, the studied children were found to have low levels of physical activity. It was revealed that Social climate in the physical education class directly affects their participation in physical activities. Moreover, perceived relatedness support plays a significant mediating role. In total, these findings show that social climate, relatedness support, and physical activity are critical concerns for children. Thus, there is a need to create a more social and supportive climate in physical education classes. This can be achieved by increasing the quality of contacts and friendship among students. Moreover, providing a motivational climate in the physical education class may increase the level of perceived social climate.

6- REFERENCES

1. Mohammadi H, Nafei H, Baniyadi T, Chaharbaghi Z. Accelerometer-Based Physical Activity and Health-Related Quality of Life in Children with ADHD. *Int J Pediatr.* 2022. Doi: 10.22038/ijp.2022.63699.4847.
2. Dana A, Christodoulides E. The Effects of a Period of Selected Physical Activity on Improving Manipulative and Locomotor Skills of Children with Neuropsychological Learning Disabilities. *J Rehabil Sci Res.* 2020; 7(1):25-30.
3. Mohammad Gholinejad P, Hojjati H, Ghorbani S. The Effect of Aerobic Exercise on Body Composition and Muscle Strength of Female Students at Elementary Schools of Ali Abad Katoul in 2018. *Int J School Health,* 2019; 6(4): 27-33.
4. Hashemi Motlagh S, Baniyadi T, Chaharbaghi Z, Moradi L. The Effects of Socioeconomic Status on Physical Activity in Children: Mediating Role of Motivation. *Int J Pediatr.* 2022. Doi: 10.22038/ijp.2022.63421.4834
5. Dana A, Ranjbari S, Salehian M, Shayan Matin P. Effects of Cognitive-Behavioral Therapy on Mental Health of High-School Students during COVID-19 Pandemic. *Int J School Health.* 2021; 8(4): 201-208.
6. Naeimikia M, Gholami A. Effect of Physical Activity on the Level of Perceived Mental Pressure during Home Quarantine due to Coronavirus Outbreak. *Sci J Rehabil Med.* 2020; 9(3):217-224.
7. Gholami A, Rostami S. Effect of a Fun Virtual Purposeful Active Play Program on Children's Physical Fitness during Home Quarantine due to the Outbreak of Covid-19. *Mot Behav.* 2021; 13(44):171-190.
8. 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.
9. World Health Organization. WHO guidelines on physical activity and sedentary behavior. World Health Organization. <https://apps.who.int/iris/handle/10665/336656>. License: CC BY-NC-SA 3.0 IGO. 2020.

10. Bull F, Guthold R, Heath GW, Inoue S, Kelly P, Oyeyemi AL, Perez LG, Richards J, Hallal PC, Lancet Physical Activity Series 2 Executive Committee. Progress in physical activity over the Olympic quadrennium. *Lancet*. 2016; 388:1325-1336.
11. Ghorbani S, Rezaeeshirazi R, Shakki M, Noohpisheh S, Farzanegi P. The role of BMI, physical activity and the use of electronic devices in the status of trunk abnormalities in male adolescents. *J Gorgan Univ Med Sci*. 2020; 22(3):129-136.
12. Ghorbani S, Afshari M, Eckelt M, Dana A, Bund A. Associations between Physical Activity and Mental Health in Iranian Adolescents during the COVID-19 Pandemic: An Accelerometer-Based Study. *Children*. 2021; 8(11):1022.
13. Sheikh M, Bay N, Ghorbani S, Esfahanian. Effects of Peers on Motivation and Physical Activity Behavior of Adolescent Students: An Investigation of Trans-Contextual Model. *Int J School Health*. 2021; 8(1):47-54.
14. Sheikh M, Bay N, Ghorbani S, Esfahani nia A. Effects of Social Support and Physical Self-efficacy on Physical Activity of Adolescents. *Int J Pediatr*. 2022; 10(4):15823-15834.
15. Dana A, Nodeh H, Salehian M, Mokari Saei S, Sarvari S. Smartphone Usage Status, Sleep Pattern, Health-Related Quality of Life, and Physical Activity among Adolescents from before to during the COVID-19 Confinement: A Cross-Sectional Study. *Int J School Health*. 2021.
16. Dana A, Khajehafleton S, Salehian M, Sarvari S. Effects of an Intervention in Online Physical Education Classes on Motivation, Intention, and Physical Activity of Adolescents during the COVID-19 Pandemic. *Int J School Health*. 2021; 8(3):141-149.
17. Maxwell LE. School Building Condition, Social Climate, Student Attendance and Academic Achievement: A Mediation Model. *J Environ Psychol*. 2016; 46:206-216.
18. Pecháčková Y, Navrátilová Z, Slavíková P. Social Climate in the Environment of Primary Schools. *Procedia Soc Behav Sci*. 2014; 112:719-724.
19. EscalanteMateos N, FernándezZabala A, Goñi Palacios E, Izar-de-laFuente Díaz-de-Cerio I. School Climate and Perceived Academic Performance: Direct or Resilience-Mediated Relationship? *Sustainability*. 2021; 13:68.
20. Hall MS, Newland A, Newton M, Podlog L, Baucom BR. Perceptions of the Social Psychological Climate and Sport Commitment in Adolescent Athletes: A Multilevel Analysis. *J Appl Sport Psychol*. 2017; 29:75-87.
21. Yun L, Vanderloo L, Berry TR, Latimer-Cheung AE, O'Reilly N, Rhodes RE, Spence JC, Tremblay MS, Faulkner G. Assessing the social climate of physical (in)activity in Canada. *BMC Public Health*. 2018; 18(1):1301.
22. Ryan RM, Deci EL. Brick by Brick: The Origins, Development, and Future of Self-Determination Theory. In A. J. Elliot (Ed.), *Advances in Motivation Science*. Cambridge, MA: Elsevier Inc. 2019. (Vol 6, pp. 111-156).
23. Ryan RM, Bradshaw EL, Deci EL. A History of Human Motivation Theories in Psychology. In RJ Sternberg & WE Pickren. Cambridge, UK: Cambridge University Press. 2019. (pp. 391-411).
24. Vansteenkiste M, Ryan RM, Soenens B. Basic Psychological Need Theory: Advancements, Critical Themes, and Future Directions. *Motiv Emot*. 2020; 44:1-31.
25. Newton M, Fry M, Watson D, Gano-Overway L, Kim M, Magyar M,

Guivernau M. Psychometric properties of the caring climate scale in a physical activity setting. *Revista de Psicología Del Deporte*. 2007; 16:67-84.

26. Hosseini F, Ghorbani S, Rezaeeshirazi R. Autonomy Support, Needs Satisfaction, Motivation, and Intention to Do Physical Activities in Adolescents: A Validation study. *Int J Pediatr*. 2022; 10(2):15399-15411.