



## Research Paper: Effects of Teaching Style on Prosocial and Antisocial Behaviors among Children



Mir Hamid Salehian <sup>\*1</sup>, Roya Hosseinzadeh Peyghan<sup>1</sup>

<sup>1</sup> Department of Physical Education, Tabriz Branch, Islamic Azad University, Tabriz, Iran

**Citation:** Salehian, H., Hosseinzadeh Peyghan, R. (2023). Effects of Teaching Style on Prosocial and Antisocial Behaviors among Children. *Journal of Modern Psychology*, 3(1), 28-37. <https://doi.org/10.22034/jmp.2023.406019.1062>

 <https://doi.org/10.22034/JMP.2023.406019.1062>

### Article info:

#### Received date:

08 Oct. 2022

#### Accepted date:

28 Dec. 2022

### Keywords:

Antisocial behavior,  
Children, Needs support,  
Needs thwarting, Prosocial  
behavior

### Abstract

The aim of this study was to investigate the effects of teaching style in physical education on prosocial and antisocial behaviors of children. We used a descriptive-correlational method for this study. The participants of the present study included 384 primary school students (mean age of 9.17 years old), including 192 boys and 192 girls which were selected by using a convenience sampling method. For collecting data, teacher as social context (TASC) Questionnaire, sport climate questionnaire (SCQ) and prosocial and antisocial behavior in sport scale (PABSS) were used. Correlation test and structural equation method were used for data analysis. The results showed that perceived need support directly affected prosocial behaviors. In addition, perceived need thwarting indirectly affected prosocial behaviors. Moreover, perceived need support indirectly affected antisocial behaviors. Finally, perceived need thwarting directly affected antisocial behaviors. These findings demonstrate that needs supportive teaching style would lead to increase the prosocial behaviors and decrease antisocial behaviors in the physical education class among children.

### \* Corresponding author:

Mir Hamid Salehian

**Address:** Department of Physical education, Tabriz Branch, Islamic Azad University, Tabriz, Iran

**Tel:** +98 (914) 417 4072

**E-mail:** [mh.salehian@gmail.com](mailto:mh.salehian@gmail.com)



© 2023, The Author(s). Published by Rahman Institute of Higher Education. This is an open-access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>)

## 1. Introduction

Children form a major part of the world's population, so that in developing countries, the share of this part of the total population reaches almost 50% (Waterman, 1993; Kraut, 1979). Their mental health helps them to be mentally and physically healthy and to play their social role better. In this regard, proper knowledge of the different physical and mental aspects of this age group and efforts to provide suitable material and spiritual conditions for physical, emotional and their thinking is of great importance (Step toe, 2019). Considering that children spend most of their time in the school, it can play a very important role in shaping students' behaviors (Baniasadi et al., 2022a).

A school is a social institution where a student interacts with other students and people at multiple social, economic, intellectual and age levels and while coordinating, the child equips himself with the weapon of science and along with that, he gradually learns the necessary evolutionary traits (Baniasadi et al., 2022b; Fararouei et al., 2013). The moments a child spends at school are among the most important and sensitive moments of his life. The atmosphere of the school is influenced by various elements such as teachers, principals, supervisors, employees, educational officers and classmates, all of whom can be role models for students and play a role in the formation of their mental dimensions. The physical, psychological and educational atmosphere of the school is one of the issues that can have an important and significant reflection on the structure of mental and intellectual growth and development as well as the creativity and mental health of the students and is considered as the foundation of the future social behaviors of the students (Floody et al., 2018; Chen et al., 2017). The role of the teacher in building or destroying the behaviors of children is very important. A teacher that may

play a very important role in forming behaviors of students is physical education teacher.

The physical education is one of the most favorite subjects for students in school, which provides a golden opportunity to provide any kind of education, whether in the teaching process - learning physical education skills and sports activities, or teaching health and safety tips to students (Baniasadi et al., 2022c). The role of a good and efficient sports teacher in creating interest in sports among students, proper productivity and ensuring their mental and physical health is undeniable. One of the ways that a physical education teacher can adopt to have an appropriate effect on students' skills in physical education is the teaching style (Chaharbaghi et al., 2022a; Dana et al., 2021). Among the teaching styles that have received a lot of attention in recent years are the need-supporting and need-thwarting teaching styles. These teaching styles are theoretically based on the theory of self-determination (Deci & Ryan, 1985; Deci & Ryan, 2000).

Self-Determination Theory is a theory of motivation that has been applied in many life domains such as health, sport, education and work. Health is an intrinsic goal for us all that is strongly influenced by our habits and lifestyle choices (Chaharbaghi et al., 2022b; Hashemi Motlagh et al., 2022; Hazrati et al., 2022). Motivation-energy directed at a goal-plays a big role in our lifestyle choices and in our ability to make sustained changes as needed to maintain our health. Self-determination theory suggests that all humans have three basic psychological needs-autonomy, competence, and relatedness-that underlie growth and development (Mohammadi et al., 2022; Vansteenkiste et al., 2020; Saeedpour-Parizi et al., 2021). It has been shown that supporting psychological needs may increase motivation and engagement of students in many school tasks (Schwartz et al., 2019;

Saeedpour-Parizi et al., 2020; Ghorbani et al., 2021; Abdoshahi & Ghorbani, 2022). On the other side, thwarting basic psychological needs has negative impacts on motivation and engagement of students in school tasks (Ghorbani et al., 2021; Evenson et al., 2008; Choi et al., 2011). However, the impacts of teaching styles in physical education on prosocial and antisocial behaviors among children are not well documented (Wijndaele et al., 2015; Abdi et al., 2022; Hodge & Gucciardi, 2015). Therefore, the aim of this study was to investigate the effects of teaching style in physical education on prosocial and antisocial behaviors of children.

## 2. Method

We used a descriptive-correlational method for this study. The participants of the present study included 384 primary school students (mean age of 9.17 years old), including 192 boys and 192 girls which were selected by using a convenience sampling method.

### 2.1. Instruments

**Teacher as Social Context (TASC) Questionnaire:** Farhangnia et al. (2020) developed this questionnaire consisting of 29 items. Their items relate to teacher's need for (autonomy, competence, and relatedness), and thwarting (autonomy, competence, and relatedness). Items were presented on a five-point Likert scale ranging from 1 = "strongly disagree" to 5 = "strongly agree." Total score of this questionnaire was obtained by averaging all items. In this study, the reliability of this questionnaire was measured and its Cronbach's alpha coefficient was 0.84.

**Sport Climate Questionnaire (SCQ):** This questionnaire was designed by Hagger et al. (2003) measuring psychological needs (including autonomy, competence, and relatedness) satisfaction.

It has with 11 questions and each question was scored on a Likert scale from strongly disagree (1) to strongly agree (7). Total score of this questionnaire was obtained by averaging all items. In this study, the reliability of this questionnaire was measured and its Cronbach's alpha coefficient was 0.88.

**Prosocial and Antisocial Behavior in Sport Scale (PABSS):** This scale was developed by Kavussanu and Boardley (2002) which measures the prosocial and antisocial behaviors of children in P.E. class. The scale is made up of 20 items that are divided between four sub-factors that in turn are divided between two factors: pro-social behavior (towards teammates, towards opponents) and antisocial behavior (towards teammates, towards opponents). Items are answered on a Likert scale of 1 (Strongly disagree) to 7 (Strongly agree). In this study, the reliability of this questionnaire was measured and its Cronbach's alpha coefficient was 0.79.

### 2.2. Data analysis

For analyzing data, we used descriptive statistics including mean and standard deviation as well as Pearson correlation test and structural equation method using Lisrel. The Kolmogorov-Smirnov test was used to check the normality of data. Significance level was considered at the level of 0.05.

## 3. Results

Table 1 shows the mean and standard deviation of the research variables as well as bidirectional associations between them. Initially, the results of Kolmogorov-Smirnov test showed that the research data had normal distribution (all  $P > 0.05$ ). To investigate the two-way relationships between the research variables, Pearson correlation coefficient was used, the results of which are as follows: 1) There are

significant direct relationships between perceived need support and needs satisfaction (all  $P < 0.001$ ), 2) There are significant and inverse relationships between perceived need thwarting and needs satisfaction (all  $P < 0.001$ ), 3) There are significant direct relationships between perceived need support and prosocial behaviors (all  $P < 0.001$ ), 4) There are significant inverse relationship between

perceived need thwarting and prosocial behaviors (all  $P < 0.001$ ), 5) There are significant inverse relationships between perceived need support and antisocial behaviors (all  $P < 0.001$ ), and 6) There are significant direct relationships between perceived need thwarting and antisocial behaviors (all  $P < 0.001$ ).

**Table 1**  
*Mean and SD as well as bidirectional associations between research variables*

Variable	Mean ± SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Autonomy Support	2.17 ± 0.97	r=0.428 P<0.001	r=0.448 P<0.001	r=0.476 P<0.001	r=0.511 P<0.001	r=0.614 P<0.001	r=0.723 P<0.001	r=0.268 P<0.001	r=0.552 P<0.001	r=0.898 P<0.001	r=0.840 P<0.001	r=0.749 P<0.001	r=0.694 P<0.001	r=0.551 P<0.001
2. Competence Support	2.58 ± 0.51	r=0.469 P<0.001	r=0.694 P<0.001	r=0.815 P<0.001	r=0.612 P<0.001	r=0.617 P<0.001	r=0.236 P<0.001	r=0.234 P<0.001	r=0.664 P<0.001	r=0.982 P<0.001	r=0.718 P<0.001	r=0.690 P<0.001	r=0.558 P<0.001	r=0.641 P<0.001
3. Relatedness Support	2.54 ± 1.08	r=0.562 P<0.001	r=0.607 P<0.001	r=0.789 P<0.001	r=0.611 P<0.001	r=0.325 P<0.001	r=0.724 P<0.001	r=0.458 P<0.001	r=0.814 P<0.001	r=0.509 P<0.001	r=0.891 P<0.001	r=0.583 P<0.001	r=0.739 P<0.001	r=0.518 P<0.001
4. Autonomy Thwarting	1.67 ± 1.61	r=0.394 P<0.001	r=0.503 P<0.001	r=0.604 P<0.001	r=0.612 P<0.001	r=0.356 P<0.001	r=0.462 P<0.001	r=0.544 P<0.001	r=0.918 P<0.001	r=0.608 P<0.001	r=0.745 P<0.001	r=0.693 P<0.001	r=0.631 P<0.001	r=0.484 P<0.001
5. Competence Thwarting	1.17 ± 0.97	r=0.694 P<0.001	r=0.504 P<0.001	r=0.259 P<0.001	r=0.661 P<0.001	r=0.322 P<0.001	r=0.747 P<0.001	r=0.511 P<0.001	r=0.188 P<0.001	r=0.505 P<0.001	r=0.628 P<0.001	r=0.771 P<0.001	r=0.523 P<0.001	r=0.284 P<0.001
6. Relatedness Thwarting	1.51 ± 0.61	r=0.524 P<0.001	r=0.293 P<0.001	r=0.562 P<0.001	r=0.237 P<0.001	r=0.734 P<0.001	r=0.261 P<0.001	r=0.463 P<0.001	r=0.264 P<0.001	r=0.481 P<0.001	r=0.661 P<0.001	r=0.813 P<0.001	r=0.503 P<0.001	r=0.684 P<0.001
7. Autonomy Satisfaction	1.12 ± 0.29	r=0.508 P<0.001	r=0.399 P<0.001	r=0.251 P<0.001	r=0.723 P<0.001	r=0.462 P<0.001	r=0.625 P<0.001	r=0.673 P<0.001	r=0.495 P<0.001	r=0.190 P<0.001	r=0.481 P<0.001	r=0.482 P<0.001	r=0.669 P<0.001	r=0.544 P<0.001
8. Competence Satisfaction	1.17 ± 1.03	r=0.308 P<0.001	r=0.299 P<0.001	r=0.516 P<0.001	r=0.672 P<0.001	r=0.547 P<0.001	r=0.452 P<0.001	r=0.634 P<0.001	r=0.499 P<0.001	r=0.480 P<0.001	r=0.198 P<0.001	r=0.934 P<0.001	r=0.528 P<0.001	r=0.687 P<0.001
9. Relatedness Satisfaction	1.20 ± 0.69	r=0.401 P<0.001	r=0.308 P<0.001	r=0.914 P<0.001	r=0.623 P<0.001	r=0.235 P<0.001	r=0.642 P<0.001	r=0.527 P<0.001	r=0.949 P<0.001	r=0.448 P<0.001	r=0.284 P<0.001	r=0.584 P<0.001	r=0.839 P<0.001	r=0.285 P<0.001
10. Prosocial Teammate	3.33 ± 1.01	r=0.691 P<0.001	r=0.610 P<0.001	r=0.419 P<0.001	r=0.620 P<0.001	r=0.236 P<0.001	r=0.511 P<0.001	r=0.637 P<0.001	r=0.191 P<0.001	r=0.318 P<0.001	r=0.941 P<0.001	r=0.934 P<0.001	r=0.485 P<0.001	r=0.688 P<0.001
11. Prosocial Opponent	3.18 ± 1.11	r=0.527 P<0.001	r=0.449 P<0.001	r=0.984 P<0.001	r=0.734 P<0.001	r=0.733 P<0.001	r=0.462 P<0.001	r=0.464 P<0.001	r=0.818 P<0.001	r=0.351 P<0.001	r=0.364 P<0.001	r=0.658 P<0.001	r=0.364 P<0.001	r=0.494 P<0.001
12. Antisocial Teammate	2.17 ± 1.25	r=0.617 P<0.001	r=0.394 P<0.001	r=0.212 P<0.001	r=0.463 P<0.001	r=0.262 P<0.001	r=0.522 P<0.001	r=0.511 P<0.001	r=0.944 P<0.001	r=0.394 P<0.001	r=0.518 P<0.001	r=0.584 P<0.001	r=0.854 P<0.001	r=0.647 P<0.001
13. Antisocial Opponent	2.55 ± 1.71	r=0.628 P<0.001	r=0.452 P<0.001	r=0.951 P<0.001	r=0.426 P<0.001	r=0.732 P<0.001	r=0.562 P<0.001	r=0.463 P<0.001	r=0.818 P<0.001	r=0.384 P<0.001	r=0.818 P<0.001	r=0.664 P<0.001	r=0.481 P<0.001	r=0.494 P<0.001

The results of the structural equation modeling are given in [Table 2](#) and [Figure 1](#). The results showed that: 1) perceived need support directly

affected needs satisfaction ( $T=5.947$ ), perceived need thwarting indirectly affected needs satisfaction ( $T=-4.287$ ), 3) needs satisfaction

directly affected prosocial behaviors ( $T=6.317$ ), 4) needs satisfaction indirectly affected antisocial behaviors ( $T=-5.297$ ), 5) perceived need support directly affected prosocial behaviors ( $T=7.195$ ), 6) perceived need thwarting indirectly affected prosocial behaviors ( $T=-5.314$ ), 7) perceived

need support indirectly affected antisocial behaviors ( $T=-6.364$ ), and 8) perceived need thwarting directly affected antisocial behaviors ( $P=4.082$ ). Results of model fit revealed that the conceptual model has good fit ( $RMSEA=0.07$ ;  $X^2/df=2.85$ ;  $RMR=0.05$ ;  $NFI=0.97$ ;  $CFI=0.95$ ).

Table 2

Results of structural equation modelling

Path	$\beta$	T-value
1 Need support => Needs satisfaction	0.536	5.947
2 Need thwarting => Needs satisfaction	0.427	-4.287
3 Needs satisfaction => Prosocial behaviors	0.694	6.317
4 Needs satisfaction => Antisocial behaviors	0.528	-5.297
5 Need support => Prosocial behaviors	0.714	7.195
6 Need support => Antisocial behaviors	0.539	-5.314
7 Need thwarting => Prosocial satisfaction	0.664	-6.364
8 Need thwarting => Antisocial satisfaction	0.417	4.082

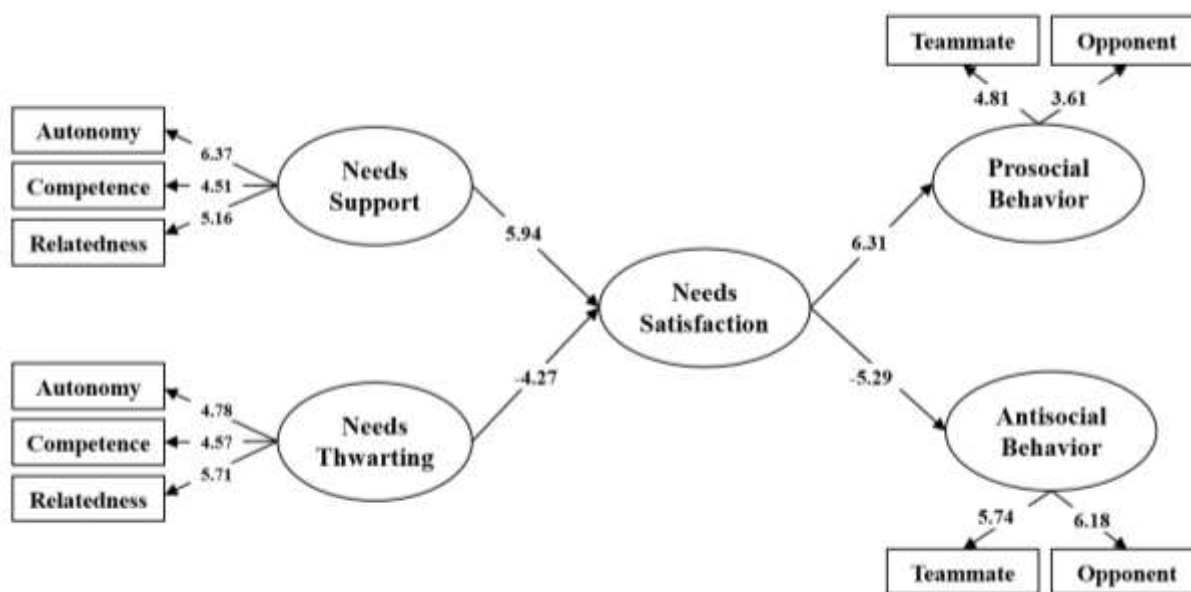


Figure 1. Structural equation modelling

#### 4. Discussion

It has been shown that supporting psychological needs may increase motivation and engagement of students in many school tasks (Schwartz et al., 2019; Saeedpour-Parizi., 2020; Ghorbani et al., 2021; Abdoshahi & Ghorbani, 2022). On the

other side, thwarting basic psychological needs has negative impacts on motivation and engagement of students in school tasks (25-27). However, the impacts of teaching styles in physical education on prosocial and antisocial behaviors among children are not well



documented. Therefore, the aim of this study was to investigate the effects of teaching style in physical education on prosocial and antisocial behaviors of children.

Our results showed that perceived need support directly affected needs satisfaction, while perceived need thwarting indirectly affected needs satisfaction. These findings are in accordance with the assumptions of the self-determination theory (Deci & Ryan, 1985; Deci & Ryan, 2000; Chaharbaghi et al., 2022; Hashemi Motlagh et al., 2022; Hazrati et al., 2022; Mohammadi et al., 2022; Vansteenkiste et al., 2020; Saeedpour-parizi., 2021). According to the self-determination theory (14-16), the source of needs supportive behaviors and the satisfaction of basic psychological needs can result in performing the behaviors through the process of internalization. Internalization is the process by which behaviors that previously existed for reasons that had an external source are now emerging from an internal causal source (Hazrati et al., 2022). Internalization shows that behavioral settings are not inflexible and fixed, but flexible and changeable, and can be mediated by supportive elements in an environment that has the potential to support autonomous behaviors (such as physical education class in school). The results of the present study are consistent with the results of previous research and showing that supporting the students' sense of autonomy, competence, and relatedness can result in satisfaction of basic psychological needs in physical education class (Mohammadi et al., 2022; Vansteenkiste et al., 2020). These findings indicate that students who understand the supportive behaviors of physical education teacher regarding to the autonomy, competence, and relatedness, begin to internalize motivations and subsequently can increase their intention to participate in physical education class activities (Saeedpour-parizi., 2021).

Regarding prosocial and antisocial behaviors, the results of the present study showed that needs supportive teaching style was directly associated with prosocial behaviors, while needs thwarting teaching style was inversely associated with prosocial behaviors. On the other hand, needs supportive teaching style was inversely associated with antisocial behaviors, while needs thwarting teaching style was directly associated with antisocial behaviors. These findings show that need supportive teaching style would increase prosocial behaviors and needs thwarting teaching style would increase antisocial behaviors of children in physical education class. To interpret these findings, it can be said that school education affects directly personality formation of the students (Wijndaele et al., 2015). Most students who enter schools are inexperienced. But it does not take long before their characters start to shape undesirably, because of associating with peers having abnormal behaviors in relation to the school (Abdi et al., 2022). However, it is feasible to put the pupils on the right path before they start to act unsociably. In this research, our result showed that providing children with needs supportive teaching approaches can suitably shape the social personality of pupils (Hodge & Gucciardi, 2015).). For instance, programs which focus on autonomy, competence, ad relatedness support in the class try to prevent antisocial behaviors. Generally, it is possible that lack of profound attention to abnormal behaviors in schools may lead the society to chaos and unrest over time, because these students, when grown up, will have antisocial tendencies and constitute the future work force of a country (Kavussanu & Boardley, 2009; Cheon & Lim, 2020; Moljord et al., 2011; Maher et al., 2016; Seyedi Asl et al., 2016; Taghva et al., 2020; Khosravi et al., 2023; Seyedi Asl., 2021).

## 5. Conclusion

In summary, an important point in the results of the present study was that the needs supportive teaching style would lead to increase the prosocial behaviors and decrease antisocial behaviors in the physical education class among children. This can be an important result and shows the importance of physical education in the school. According to the results of the present study, it is suggested that physical education teachers should provide support for students' sense of autonomy, competence, and relatedness through giving students more choices and opportunities to choose the type of exercise during the physical education class, increase their self-confidence, and increase relationships between peers in the class.

## Acknowledgment

The researchers appreciate all the people who contributed to this research.

## Conflict of interest

The Authors declare that there is no conflict of interest with any organization. Also, this research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

## References

Abdi, K., Hosseini, F. B., Chaharbaghi, Z., & Ghorbani, S. (2022). Impact of Social Support on Wellbeing and Health-Related Quality of Life among Elderly Women: Mediating Role of Physical Activity. *Women's Health Bulletin*, 9(2), 104-109. <https://doi.org/10.30476/whb.2022.94981.1174>

Abdoshahi, M., & Ghorbani, S. (2022). Effects of Playground Availability on Participation of Children in Physical Activity: The Role of Socioeconomic Status. *International Journal of School Health*, 9(3), 186-191. <https://doi.org/10.30476/intjsh.2022.96051.1245>

Asl, S. T. S., Sadeghi, K., Bakhtiari, M., Ahmadi, S. M., Anamagh, A. N., & Khayatan, T. (2016). Effect of group positive psychotherapy on improvement of life satisfaction and the quality of life in infertile woman. *International Journal of fertility & sterility*, 10(1), 105. <https://doi.org/10.22074%2Fijfs.2016.4775>

Baniasadi, T., Ranjbari, S., Abedini, A., Dana, A., & Ghorbani, S. (2022a). Investigation the Association of Internet Addiction with Mental Health and Physical Activity in Teenage Girls: The Mediating Role of Parental Attitude. *Women's Health Bulletin*, 9(4), 243-250. <https://doi.org/10.30476/whb.2022.96915.1197>

Baniasadi, T., Ranjbari, S., Khajehafaton Mofrad, S., Dana, A. (2022b). Associations between device-measured physical activity and balance performance in children: Mediating role of motor self-efficacy. *Biomedical Human Kinetics*, 14(1), 252-258. <https://doi.org/10.2478/bhk-2022-0031>

Baniasadi, T., Ranjbari, S., Khajehafaton, S., Neshati, A., & Dana, A. (2022c). Effects of Physical Activity on Adiposity in Children: Mediating Role of Self-Esteem and Body-Image. *International Journal of Pediatrics*, 10(12), 17172-17181. <https://doi.org/10.22038/ijp.2022.67562.5043>

Chaharbaghi, Z., Baniasadi, T., & Ghorbani, S. (2022a). Effects of Teacher's Teaching Style in Physical Education on Moderate-to-Vigorous Physical Activity of High-School

- Students: An Accelerometer-based Study. *International Journal of School Health*, 9(3), 143-150.  
<https://doi.org/10.30476/intjsh.2022.95204.1224>
- Chaharbaghi, Z., Hosseini, F. B., Baniyasi, T., Moradi, L., & Dana, A. (2022b). Impact of Physical Activity on Resilience among Teenage Girls during the COVID-19 Pandemic: a Mediation by Self-Esteem. *Women's Health Bulletin*, 9(2), 80-85.  
<https://doi.org/10.30476/whb.2022.94451.1166>
- Chen, J., Ho, S. Y., Leung, L. T., Wang, M. P., & Lam, T. H. (2017). Associations of unhappiness with sociodemographic factors and unhealthy behaviours in Chinese adolescents. *The European Journal of Public Health*, 27(3), 518-524.  
<https://doi.org/10.1093/eurpub/ckx015>
- Cheon, H., & Lim, S. (2020). Pursuing sustainable happiness through participation in exercise for South Korean students: Structural relationships among exercise, mental health factors, school satisfaction, and happiness. *Sustainability*, 12(9), 3797.  
<https://doi.org/10.3390/su12093797>
- Choi, L., Liu, Z., Matthews, C. E., & Buchowski, M. S. (2011). Validation of accelerometer wear and nonwear time classification algorithm. *Medicine and science in sports and exercise*, 43(2), 357.  
<https://doi.org/10.1249/01.MSS.0b013e3181ed61a3>
- Dana, A., Khajehafaton, S., Salehian, M. H., & Sarvari, S. (2021). Effects of an Intervention in Online Physical Education Classes on Motivation, Intention, and Physical Activity of Adolescents during the COVID-19 Pandemic. *International Journal of School Health*, 8(3), 158-166.  
<https://doi.org/10.30476/intjsh.2022.95204.1224>
- Deci, E. L., & Ryan, R. M. (1985). *Motivation and self-determination in human behavior*. NY: Plenum Publishing Co.
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological inquiry*, 11(4), 227-268.  
[https://doi.org/10.1207/S15327965PLI1104\\_01](https://doi.org/10.1207/S15327965PLI1104_01)
- Evenson, K. R., Catellier, D. J., Gill, K., Ondrak, K. S., & McMurray, R. G. (2008). Calibration of two objective measures of physical activity for children. *Journal of sports sciences*, 26(14), 1557-1565.  
<https://doi.org/10.1080/02640410802334196>
- Fararouei, M., Brown, I. J., Toori, M. A., Haghghi, R. E., & Jafari, J. (2013). Happiness and health behaviour in Iranian adolescent girls. *Journal of adolescence*, 36(6), 1187-1192.  
<https://doi.org/10.1016/j.adolescence.2013.09.006>
- Farhangnia, S., Hassanzadeh, R., & Ghorbani, S. (2020). Handwriting Performance of Children with Attention Deficit Hyperactivity Disorder: The Role of Visual-Motor Integration. *International Journal of Pediatrics*, 8(11), 12317-12326.  
<https://doi.org/10.22038/ijp.2020.47633.3857>
- Floody, D., Caamaño-Navarrete, F., Martínez-Salazar, C., Jerez-Mayorga, D., & Carter-Thuiller, B. (2018). Childhood obesity and its association with the feeling of unhappiness and low levels of self-esteem in children of public schools. *Nutricion hospitalaria*, 35(3), 533-537. <https://doi.org/10.20960/nh.1424>
- Ghorbani, S., Tayebi, B., Deylami, K., Rahmanna, G., & Shakki, M. (2021). The



- Effect of Physical Education in Schools on the Motivation and Physical Activity Behavior of Adolescents: An Examination of the Trans-Contextual Model. *Research on Educational Sport*, 8(21), 179-196. <https://doi.org/10.22089/res.2020.8805.1866>
- Hagger, M. S., Chatzisarantis, N. L. D., Culverhouse, T., & Biddle, S. J. H. (2003). The Processes by Which Perceived Autonomy Support in Physical Education Promotes Leisure-Time Physical Activity Intentions and Behavior: A Trans-Contextual Model. *Journal of Educational Psychology*, 95(4), 784–795. <https://doi.org/10.1037/0022-0663.95.4.784>
- Hashemi Motlagh, S., BaniAsadi, T., Chaharbaghi, Z., & Moradi, L. (2022). The Effects of Parental Socioeconomic Status on Children Physical Activity: Mediating Role of Motivation. *International Journal of Pediatrics*, 10(8), 16538-16544. <https://doi.org/10.22038/ijp.2022.63421.4834>
- Hazrati, Z., Ranjbari, S., BaniAsadi, T., & Khajehaflatan, S. (2022). Effects of Social Support on Participation of Children with ADHD in Physical Activity: Mediating Role of Emotional Wellbeing. *International Journal of Pediatrics*, 10(10), 16880-16886. <https://doi.org/10.22038/ijp.2022.64698.4899>
- Hodge, K., & Gucciardi, D. F. (2015). Antisocial and prosocial behavior in sport: The role of motivational climate, basic psychological needs, and moral disengagement. *Journal of Sport and Exercise Psychology*, 37(3), 257-273. <https://doi.org/10.1123/jsep.2014-0225>
- Kavussanu, M., & Boardley, I. D. (2009). The prosocial and antisocial behavior in sport scale. *Journal of sport and exercise psychology*, 31(1), 97-117. <https://doi.org/10.1123/jsep.31.1.97>
- Khosravi, M., Asl, S. T. S., Anamag, A. N., Langaroudi, M. S., Moharami, J., Ahmadi, S., ... & Kasaeiyan, R. (2023). Parenting styles, maladaptive coping styles, and disturbed eating attitudes and behaviors: a multiple mediation analysis in patients with feeding and eating disorders. *PeerJ*, 11, e14880. <https://doi.org/10.7717/peerj.14880>
- Kraut, R. (1979). Two conceptions of happiness. *The philosophical review*, 88(2), 167-197. <https://philpapers.org/rec/KRATCO>
- Maher, C. A., Toohey, M., & Ferguson, M. (2016). Physical activity predicts quality of life and happiness in children and adolescents with cerebral palsy. *Disability and rehabilitation*, 38(9), 865-869. <https://doi.org/10.3109/09638288.2015.1066450>
- Mohammadi, H., Nafei, H., BaniAsadi, T., & Chaharbaghi, Z. (2022). Accelerometer-based physical activity and health-related quality of life in children with ADHD. *International Journal of Pediatrics*, 10(7), 16362-16369.
- Moljord, I. E. O., Eriksen, L., Moksnes, U. K., & Espnes, G. A. (2011). Stress and happiness among adolescents with varying frequency of physical activity. *Perceptual and motor skills*, 113(2), 631-646. <https://doi.org/10.2466/02.06.10.13.PMS.113.5.631-646>
- Saeedpour-Parizi, M. R., Hassan, S. E., BaniAsadi, T., Baute, K. J., & Shea, J. B. (2020). Hierarchical goal effects on center of mass velocity and eye fixations during gait. *Experimental brain research*, 238, 2433-2443. <https://doi.org/10.1007/s00221-020-05900-0>
- Saeedpour-Parizi, M.R., Hassan, S.E., Azad, A. et al. (2021). Target position and avoidance margin effects on path planning in obstacle

- avoidance. *Scientific Reports*, *11*, 15285. <https://doi.org/10.1038/s41598-021-94638-y>
- Schwartz, J., Rhodes, R., Bredin, S. S., Oh, P., & Warburton, D. E. (2019). Effectiveness of approaches to increase physical activity behavior to prevent chronic disease in adults: a brief commentary. *Journal of clinical medicine*, *8*(3), 295. <https://doi.org/10.3390/jcm8030295>
- Seyedi Asl, S. T., Rahnejat, A. M., Elikae, M. M., Khademi, M., Shahed-HaghGhadam, H., & Taghva, A. (2021). The role of resilience, positive/negative emotions, and character strengths in predicting burnout of military personnel. *EBNESINA*, *22*(4), 4-13. [https://ebnesina.ajaums.ac.ir/browse.php?a\\_code=A-10-689-1&sid=1&slc\\_lang=en](https://ebnesina.ajaums.ac.ir/browse.php?a_code=A-10-689-1&sid=1&slc_lang=en)
- Step toe, A. (2019). Happiness and health. *Annual review of public health*, *40*, 339-359. <https://doi.org/10.1146/annurev-publhealth-040218-044150>
- Taghva, A., Asl, S. T. S., Rahnejat, A. M., & Elikae, M. M. (2020). Resilience, emotions, and character strengths as predictors of job stress in military personnel. *Iranian journal of psychiatry and behavioral sciences*, *14*(2), e86477. <https://doi.org/10.5812/ijpbs.86477>.
- Vansteenkiste, M., Ryan, R. M., & Soenens, B. (2020). Basic psychological need theory: Advancements, critical themes, and future directions. *Motivation and emotion*, *44*, 1-31. <https://doi.org/10.1007/s11031-019-09818-1>
- Waterman, A. S. (1993). Two conceptions of happiness: Contrasts of personal expressiveness (eudaimonia) and hedonic enjoyment. *Journal of personality and social psychology*, *64*(4), 678-691. <https://psycnet.apa.org/doi/10.1037/0022-3514.64.4.678>
- Wijndaele, K., Westgate, K., Stephens, S. K., Blair, S. N., Bull, F. C., Chastin, S. F., ... & Healy, G. N. (2015). Utilization and harmonization of adult accelerometry data: review and expert consensus. *Medicine and science in sports and exercise*, *47*(10), 2129. <https://doi.org/10.1249%2FMSS.00000000000000661>