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Research Paper: Effects of Communication Skills in the Physical Education on Enjoyment and Involvement among High-School Students

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Abstract

Communication is associated to the effectiveness and efficiency of any sports team function due to its informative, motivational and evaluative role. However, the effects of communication skills within the physical education context are rarely investigated. Hence, the aim of this study was to investigate the effects of communication skills in the physical education on enjoyment and involvement of high school students. It was hypothesized that communication skills within the physical education class have positive effects on enjoyment and involvement of high-school students. The method used in this study was a structural equation modelling. The participants included 384 adolescents age 16 to 18 years old (mean 16.96±0.57 years old) who attended in regular high-schools. Teacher Communication Behavior Questionnaire (TCBQ) and Fragebogens zur Erfassung von Freude am Schulsport im Jugendalter (FEFS-J), and Student Engagement Instrument (SCI) were used for assessing communication skills, enjoyment, and involvement. To analyze data, we used Pearson correlation test and structural equation modeling. Results showed that communication skills had significant effects on enjoyment (T=4.182) and involvement (T=6.082). In addition, enjoyment had significant effects on involvement (T=3.291). Results of evaluating fitness of good showed that our model has a good fit (GOF=0.93). Communication skills are very important for engagement and learning of students.

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1. Introduction

Sedentary lifestyles increase all causes of mortality, double the risk of cardiovascular diseases, diabetes, and obesity, and increase the risks of colon cancer, high blood pressure, osteoporosis, lipid disorders, depression and anxiety (Cantell et al., 2008; Caspersen et al., 1985; Ghorbani et al. 2021; Haga, 2009; Thivel et al. 2018). According to WHO, 60 to 85% of people in the world-from both developed and developing countries-lead sedentary lifestyles, making it one of the more serious yet insufficiently addressed public health problems of our time (Bull et al. 2020). It is estimated that nearly two-thirds of children are also insufficiently active, with serious implications for their future health (Abdoshahi et al., 2022; Basterfield et al., 2021; Dana & Christodoulides, 2019; Dana et al., 2021; Hashemi Motlagh et al., 2022; Gholami & Rostami, 2021; Ghorbani et al., 2020, 2021; Lahart et al., 2019; Mohammad Gholinejad et al., 2019; Mohammadi et al., 2022; Naeimikia et al., 2018; Naeimikia & Gholami, 2018, 2020; Schwartz et al., 2019; Tremblay et al. 2011; Wafa et al. 2016; Yaali et al., 2018; Zhang et al., 2021). These facts increase the importance of early interventions for enhancing the level of physical activity and sport participation in children and adolescents.

The school has a significant impact on the level of physical fitness of students with the aim of improving the health or physical fitness of students, increasing physical activity, or psychological determinants (such as knowledge, motivation, attitude toward physical activity). The physical education in school offers educational backgrounds to promote motivation, and real participation in activities such as out-of-school physical activity. The school environment is a meaningful and effective environment to stimulate and support all children and adolescents to become more physically active which can subsequently result in health outcomes (Cid et al., 2019).

Implementing school physical activity programs reflects a holistic approach that requires children to participate in at least 60 minutes of physical activity each day. However, research showed that about 80% of children and adolescents worldwide do not follow these recommended guidelines (Baddou et al., 2018). Wang et al. (2019) showed that school-aged adolescents do not follow international guidelines for at least 60 minutes of daily physical activity. Moreover, students on the days they had PE in school have more physical activity compared to the days without physical education class in school, which indicates the important role of sports and physical education in school in the overall physical activity level of children and adolescents. Therefore, physical activity level of children and adolescents has become a key topic in research on physical education, exercise, and health over the past decades. School and especially physical education in school are also considered as a very important environment because at first physical education in school has a very important role in the physical activity of children and adolescents and secondly that one of the important goals in physical education in school is to motivating children and adolescents to be physically active outside the school context, i.e., leisure-time context (Cid et al., 2019).

Communication is associated to the effectiveness and efficiency of any sports team function due to its informative, motivational and evaluative role. Coaching, teaching, evaluating and decision making are very important activities, especially when attempting to help players to enjoy mastering new skills, compete with others and feel good. In small group communication, every

person can participate actively with other members, so that whatever their makeup, small groups process characteristics that are not present in a dyad (Athanasios, 2005). Communication is the verbal or nonverbal transfer of information, ideas and feelings from one individual to another or from one group to another (Küçükahmet, 2009). In order to be able to communicate there is a need to meet at a mid-point, which, to a great extent, is realized in the first moments of the communication. However, the effects of communication skills within the physical education context are rarely investigated. Hence, the aim of this study was to investigate the effects of communication skills in the physical education on enjoyment and involvement of high school students.

2. Methods

2.1 Participants

The method used in this study was a structural equation modelling. The participants included 384 adolescents age 16 to 18 years old (mean 16.96±0.57 years old) who attended in regular high-schools. All participants have voluntarily attended in the study. The parents of participants gave informed consents for participation of their children in this study. Protocol of this study was in accordance with ethical guidelines of declaration of Helsinki.

2.2 Measures

2.2.1. Teacher Communication Behavior Questionnaire: Teacher Communication Behavior Questionnaire (TCBQ) created and validated by She and Fisher (2000) to measures students' perception of the type of communication used by teachers in their classrooms. The TCBQ is composed by 40 items distributed in 5 dimensions including Challenging, Encouragement and Praise, Non-verbal Support, Understanding and Friendliness and Controlling all with an acceptable Cronbach's alpha value of over 0.70 (Matos et al., 2014). Likewise, the above scale has an overall Cronbach alpha of 0.96.

2.2.2 Enjoyment: We used Fragebogens zur Erfassung von Freude am Schulsport im Jugendalter FEFS-J (Engels & Freund, 2019) for measuring enjoyment in physical education. This questionnaire consisted of nine questions scored based on a 4-point Likert scale from "never" to "always". We measured the reliability of this questionnaire with a Cronbach's alpha coefficient of 0.91.

2.2.3. Student Engagement Instrument: Appleton et al. (2006) devised Student Engagement Instrument (SCI) used to measure involvement of students in physical education. This scale consisted of 35 item which assesses two subtypes of student engagement: affective and cognitive. All items were scored through a five-point Likert-type rating where lower score indicated higher levels of engagement with the exception of items of intrinsic motivation in cognitive engagement which had reverse scoring. We measured the reliability of this questionnaire with a Cronbach's alpha coefficient of 0.89.

2.3 Data analysis

Mean and standard deviation were used for data description. Normality of data was assessed using Kolmogorov-Smirnov test. The associations between research variables were analyzed using Pearson correlation test. Finally, structural equation modelling was used to measure structural associations between research variables. SPSS software version 26 and Lisrel version 8.2 were used to analyze the data. P-value was set at $P < 0.05$.

3. Results

3.1 Bisectional associations

Table 1 shows descriptive data including mean and standard deviation as well as bidirectional associations between research variables. First of all, the results of Kolmogorov-Smirnov tests showed that our data were normally distributed (all P>0.05). In addition, results of Pearson correlation tests showed significant associations between communication skills with enjoyment and involvement (both p=0.000). In addition, enjoyment was significantly associated with involvement (p=0.000).

Table 1
Descriptive data and bidirectional associations

	Mean ± SD	1	2	3
1. Communication skills	2.68 ± 0.81	1		
2. Enjoyment	2.21 ± 0.69	r=0.694 p=0.000	1	
3. Involvement	3.15 ± 1.02	r=0.534 p=0.000	r=0.409 p=0.000	1

3.2 Structural associations

Table 2 and Figure 1 show the results of structural equation modeling. The results showed that communication skills had significant effects on enjoyment (T=4.182) and involvement (T=6.082). In addition, enjoyment had significant effects on involvement (T=3.291). Results of evaluating fitness of good showed that our model has a good fit (GOF=0.93).

Table 2
Results of path analysis

	Path	β	T-value
1	Communication skills => Enjoyment	0.521	4.182
2	Communication skills => Involvement	0.638	6.082
3	Enjoyment => Involvement	0.305	3.291

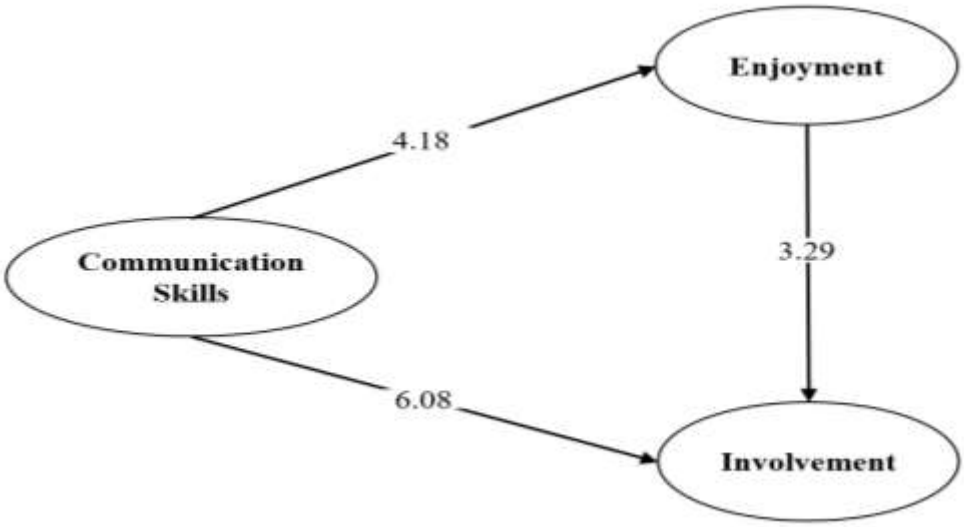

Figure 1. Structural equation modelling

4. Discussion

Communication is associated to the effectiveness and efficiency of any sports team function due to its informative, motivational and evaluative role. However, the effects of communication skills within the physical education context are rarely investigated. Hence, the aim of this study was to investigate the effects of communication skills in the physical education on enjoyment and involvement of high school students. It was hypothesized that communication skills within the physical education class have positive effects on enjoyment and involvement of high-school students.

Regarding communication skills, we found that communication skills in the physical education class had significant effects on enjoyment and involvement of high-school students. Communication skills in the classroom are critical to interacting with students, as the very nature of teaching demands them. Teacher is responsible for understanding and analyzing complex information and conveying information clearly to students (both oral and written sources), in a way that captures their attention and listens to their questions or problems and solve them. Teacher is also responsible to adapt content to different learning styles, motivate students to learn, build supportive relationships with encouragement, manage the classroom and provide feedback, make the classroom a safe learning environment and become a supporter. All this requires good communication skills. The better communication skills, the more effectively the teacher can perform these tasks. In turn, the students will make more academic progress. Studies have shown that the success of students is directly related to the interactive and attractive environment of education by capable teachers. In addition, the way to communicate with students can affect their understanding of school, their role in the classroom, their abilities and their motivation to succeed have a positive impact. Poor communication skills as a result of poor teaching methods that reduce the level of students' understanding and may negatively affect their academic progress. It can also lead to students being demotivated, not liking school and believing that they are not able to

reach them. Therefore, effective communication between teachers and students is very important. Effective communication allows the teacher to do his job well and create positive outcomes for students. Another benefit is that the students can use the teacher as a role model to improve their communication skills, which are crucial for their future learning and development. As a result, it can be said that communication skills are very important for engagement and learning of students.

In addition, as the results of this study showed, enjoyment can be considered as an important factor for increasing involvement of students in physical education, as it may ease the classroom management, and improve physical education's status and perceived value in physical education (Grasten & Watt, 2017; Leisterer & Gramlich, 2021). The role of positive affect such as enjoyment is previously stated in some important theories in context of motivation. It has also been shown that positive affect is influenced by perceptions such as self-efficacy. Thus, the experiences of student in the physical education class can be considered as an important factor for their involvement.

5. Conclusion

To conclude, the results of current study show that communication skills in the physical education class had significant effects on enjoyment and involvement of high-school students. This result may indicate that communication skills in the classroom are critical to interacting with students, as the very nature of teaching demands them. Therefore, it is suggested that physical education teachers use communication skills to increase the enjoyment and participation of students in sports.

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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.

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Journal of Modern Psychology

Research Paper: Effects of Attentional Focus on Learning a Balance Task among Children with DCD

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Abstract

Motor learning studies on adults have shown that directing the learners' attention to external cues is more effectual than internal cues. In this study, we investigated if this could be applied to children with developmental coordination disorder (DCD). 45 boys with developmental coordination disorder were selected using motor observation questionnaire for teachers. The task was static balance test that was measured in two experimental conditions including internal (focus on body limb) and external (focus on rex marker) focus of attention. For data analysis, ANOVA and Tukey's post hoc were used at the significant level of $P < 0.05$. Results showed that external focus could improve motor learning. However, there was no significant difference between internal focus and control groups. Thus children with DCD benefit from the external focus of attention to learning a static balance skill. According to the results of this study, therapists and coaches should adjust their rehabilitation methods and instructions based on external focus of attention.

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1. Introduction

About 5 to 6 percent of school-aged children suffer from developmental coordination disorder (DCD). This disorder is a type of neuro-motor disability and most of the affected people have problems in performing and learning fine or gross motor skills, which can affect their daily activities and academic performance and lead to isolation, depression and a decrease in their quality of life (Abdollahipour et al. 2019; Saeedpour-Parizi et al. 2020, 2021). (Most of these children have problems with balance skills and have weaker postural control compared to their healthy peers, and therefore, are more exposed to falling and getting hurt. However, through exercise and therapeutic interventions, it is possible to improve movement and the balance of these children (Abdollahipour et al. 2015, 2017; Mohammadi et al. 2022; Hazrati et al. 2022; Hashemi Motlagh et al. 2022; Ghorbani & Bund, 2014, 2016; Ghorbani, Ghanati, Dana, & Salehian, 2020). Therefore, knowing more effective methods can be beneficial in the rehabilitation of these children.

Attention of focus is the act of directing a person's attention to specific sources of information or topics of interest during movement performance. The focus of external attention is directing a person's attention to external sources of information (such as the path of an object or the result of movement on the environment) and the focus of internal attention is directing a person's attention to his own body movements (Chiviacowsky et al. 2010; Dana et al. 2019, 2021; Ghorbani, & Bund, 2020; Ghorbani, Dana, & Christodoulides, 2020; Ghorbani, Dana, & Fallah, 2019). They direct the attention of learners to body movements or environmental signs. Researches have shown that when learning movement skills, it is better to direct the attention of adults to external signs than to internal signs (Flores et al. 2015; Ghorbani & Bund, 2017). These findings have been observed in balance tasks (Ghorbani et al. 2019, 2020), endurance (Baniasadi, Ranjbari, Khajehaflaton, Neshati & Dana, 2022; Chaharbaghi et al. 2022; Saemi et al. 2013) and various sports skills (Salehian, 2012a, 2012b, 2021). To justify this issue, Wulf et al. (2010) presented the action constrained hypothesis. According to this hypothesis, by adopting an internal focus and focusing on body movements, learners try to consciously control their movements and thus, the automatic control process is damaged, but by adopting an external focus, the possibility of controlling movement with automatic processes and the unconscious is provided and the result is more effective learning and performance (Wulf & Lewthwaite, 2016). On the other hand, according to the results of some researches, the skill level of the performers is also influential in this issue; So that in skilled players, the focus of external attention and in beginner players, the focus of internal attention leads to better performance and learning (Wulf & Su, 2007).

It can be considered that children, like beginner players, have little movement experience and are unfamiliar with movement tasks and have problems in focusing their attention during the execution of movement skills (Baniasadi, Ranjbari, Khajeaflaton Mofrad & Dana, 2022;

Chaharbaghi, Baniasadi & Ghorbani, 2022). According to the studies, only a few studies with contradictory results have investigated this have addressed the issue in children. Some researches (Baniasadi, Ranjbari, Abedini, Dana & Ghorbani, 2022; Seyedi Asl et al. 2016; Taghva et al. 2020) have suggested adopting an external focus of attention and others (Eskandarnejad, Mobayen, & Dana, 2015; Khosravi et al. 2023; Seyedi Asl et al. 2021) have also suggested adopting an internal focus of attention in children. In the case of children with DCD, although their motor learning processes have been studied in different ways has been placed, but more research is needed to eliminate the existing gap in the field of the focus of attention suitable for their performance and motor learning. With the investigations that were done, only one study (Chaharbaghi et al. 2022) on the subject of the effect of the focus of attention on the motor learning of children with DCD was found to indicate a difference in the use of the focus of attention in these children compared to normal children. Developmental differences may cause different motor learning (Saeedpour-Parizi et al. 2020, 2021) and the more effective focus of attention is different for adults, normal children and children with DCD. Therefore, investigating this issue will be useful for a better understanding of educational and therapeutic methods and instructions during performance and movement learning of these children. The purpose of this study was, therefore, to investigate the effect of the focus of attention on the motor performance of children with DCD. The performance of the participants in the balance task was examined and it was assumed that the effect of adopting an external focus of attention is better than an internal focus of attention.

2. Methods

This research was semi-experimental and applied in terms of its purpose. The statistical sample was selected in a targeted and accessible way from undergraduate students and elementary school students in Tehran in the academic year 2022. Children with DCD included 45 boys aged 9 to 11 (the presence of DCD disorder in these children was confirmed with the help of the teachers' movement observation questionnaire). The participants were randomly assigned into three groups including external focus of attention, internal focus of attention and control. Each group consisted of 15 participants. In order to cooperate in conducting the study, parents and children are not familiar with the task and the absence of obvious musculoskeletal, neurological or intellectual problems, and the exclusion criteria also include addiction, any type of illness or the use of any medication during the test period, and the presence of pathology or limitations. The entry and exit criteria were made through a researcher-made questionnaire and the medical and psychological records of the children in the school were examined. Meanwhile, in case of dissatisfaction or withdrawal of the participants in any of the stages test, there was no limit for not continuing their cooperation. Children with DCD were selected through the teachers' movement observation questionnaire. According to this questionnaire, children below the 15th

percentile were identified as children with DCD.

In this study, static balance performance was assessed. Static balance performance was measured using Warrior III Pose task. Children were asked to balance on the right foot while lifting the left foot off the ground and holding the hands above the head. The purpose of this test was to maintain static balance as much as possible. The time each child was at balance was measured by a digital stopwatch. The stopwatch started in a balanced position and stopped when an error occurred, such as when the left hand or foot hit the ground.

Protocol of this study was as following. First, a demographic information sheet was completed for each child by referring to the child record at school. The children were tested separately in a room set up for the study in the respective schools. As soon as they entered the particular room, demographic information such as age, height, and weight were obtained. Then, the details of the method and motor skill were provided to the child. To familiarize children with the protocol implementation environment and motor task, they were asked to perform static balance skill in a designated area once. Then, in the pretest, the children performed the static balance skill once without any feedback or instructions. Then, they participated in the acquisition phase in five training blocks, each of which consisted of three minutes of static balance task. Participants were given a two-minute break between each exercise block. One day after the acquisition test, the children took a retention test that performed static balance skill. In the pretest and retention test, children were asked to continue performing static balance skills as much as possible. Here, the length of time that children could perform the skill without error was calculated as their score in performing the static balance skill.

Regarding the external focus of attention, the children in the external focus group were instructed to "focus on the red marker" two meters ahead of them on the floor while performing the static balance skill. The children in the internal focus of attention group were instructed to "focus on their feet" while performing the static balance skill. There was no focus of attention instructions in the pretest and retention test and no red markers on the ground. To ensure that children follow the concentration instructions, we reminded the children how to concentrate at 10-second intervals during the exercise blocks. In order to measure the type and intensity of participants' focus, we asked all children to take the manipulation test after the acquisition phase. In the manipulation test, we asked the children "What are you focusing on?" to determine the type, and "How much did you focus on it?" on a Likert scale from 1 (not at all) to 7 (very much) to measure the focus intensity. The children in the control group did not receive any instructions on the focus of attention during the training period.

In the present study, the dependent variable included the balance time (in minutes) in the pretest and retention test. One-way analysis of variance was used to analyze the balance time in the pretest and

retention test. Tukey's post hoc test was used as a post hoc test. The level of statistical significance was used at P <0.05.

3. Results

The demographic characteristics are given in Table 1. Demographic results include age, height, weight, and BMI of children in different groups.

Table 1

Subjects' demographic characteristics

Group	Age	Height	Weight	BMI
External focus of attention	35.1 ± 01.14	79.13 ± 47.162	08.17 ± 52.54	22.2 ± 49.20
Internal focus of attention	48.1 ± 22.14	48.14 ± 17.160	93.20 ± 70.55	79.1 ± 01.21
Control	40.1 ± 96.13	44.15 ± 47.159	06.18 ± 07.56	94.1 ± 08.20

Table 2 and Figure 1 show the performance time of groups in the pretest and retention test. The results of the analysis of variance in pretest and retention test are given in Table 3. The analysis of variance showed no significant difference in performance time between groups in the pretest (F = 0.82, p = 0.54). These results indicate that all children in different groups had the same conditions at the beginning of the exercise. However, in the retention test, the analysis of variance showed a significant difference between the groups in performance time (F = 12.01, p <0.001). Tukey post hoc test results showed that children in the external focus of attention group performed better than the internal focus of attention and control groups (p <0.001). However, no significant difference was observed between the internal focus of attention and control groups (p> 0.05).

Table 2

The mean and standard deviation of performance scores of research groups in pretest and retention test

		External focus of attention	Internal focus of attention	Control
Pretest	Mean	42.1	40.1	52.1
	Std.	25.1	30.1	48.1
Posttest	Mean	93.3	57.2	69.2
	Std.	04.2	25.2	17.2

Table 3

Results of analysis of variance in pretest and retention test

		Sum of Squares	Df	Mean Square	F	Sig.
Pretest	Between Groups	63.48	2	31.24	82.0	547.0
	Within Groups	86.48	43	42.59		
	Total	135.11	45			
Retention	Between Groups	54.186	2	27.93	01.12	000.0
	Within Groups	386.94	43	183.69		
	Total	573.48	45			

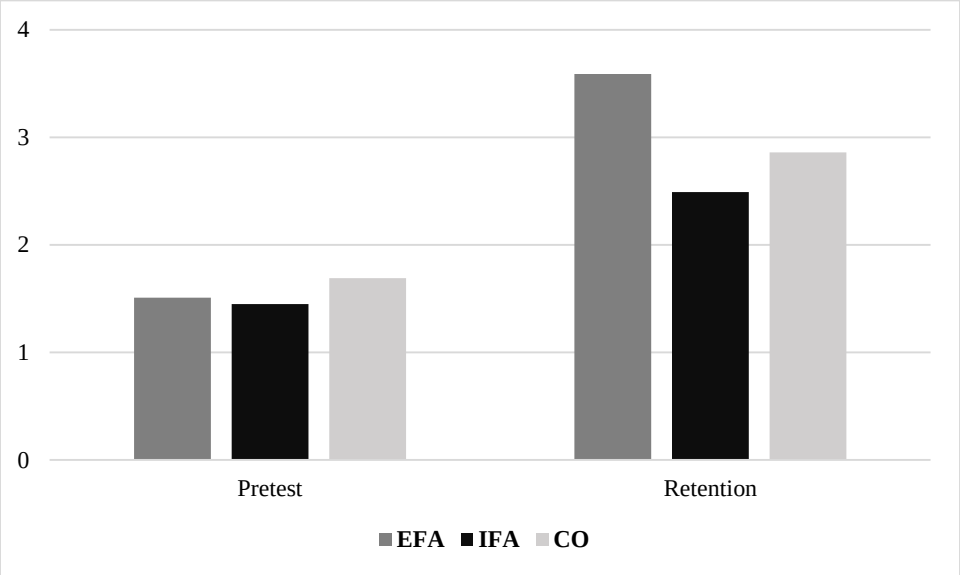

Figure 1. Children's performance in pretest and retention test. EFA: External Focus of attention Group; IFA: Internal Focus of attention Group; CO: Control group.

4. Discussion

This study compared a static balance skill learning by the external and internal focus of attention on children with DCD. Based on the results of previous research on the acquisition of external and internal focus of attention, this study hypothesized that external focus of attention compared to an internal focus of attention leads to better learning of a static balance skill in children with DCD. The results of the research indicate that the research hypothesis is confirmed. The results showed that children with DCD who adopted an external focus of attention were significantly more likely to perform better during the retention test than children in the internal focus of attention or control groups. This finding is consistent with the results of previous research, which shows that taking the external focus of attention on learning new motor skills is more effective than internal focus of attention in both healthy children and specific groups such as ADHD (Baniasadi, Ranjbari, Khajehaflaton, Neshati & Dana, 2022; Chaharbaghi et al. 2022; Saemi et al. 2013). In addition, this finding supports the optimal theory (Baniasadi, Ranjbari, Abedini, Dana & Ghorbani, 2022; Seyedi Asl et al. 2016; Taghva et al. 2020), which suggests the advantage of an external focus of attention when learning new motor skills.

Wulf and Lewthwaite (2016) suggested that adopting an external focus of attention results in promoting focus of the learners on task goal and this directly connects goals and actions, enhancing goal-action coupling. Adopting an external focus of attention facilitates efficient switching from the default mode network to relevant motor networks,

whereas an internal attentional focus impedes this process. In the optimal theory, performing under external attentional focus conditions are presumed to facilitate functional connectivity, that is, task-specific neural connections across distinct brain regions that are seen in skilled performers. Lack of a clear task focus (e.g., internal focus) would impede switching to task related functional networks or goal-action coupling.

One limitation is that we used only boys as participants, thereby limiting the generalization of research results to girls. Similarly, the restricted age group was 9-11 years old, limiting the generalization of results to older children. Also, we examined the effects of focus of attention on balance time, and the motor coordination components were not measured. Future studies should examine the effect of focus of attention on motor coordination in children with DCD, emphasizing kinematic analysis.

5. Conclusion

In summary, the results show that children with DCD benefit from the external focus of attention to learning a static balance skill. This result may indicate that these children have the mechanisms to learn new skills through the external focus of attention (such as goal-action coupling). Based on the optimal theory, adopting an external focus of attention reduces a self-focus, directs attention to the task goals, and connects goals and actions, e.g., goal-action coupling. Generally, the results of this study confirm these propositions. The present findings have some practical implications. These results suggest that coaches, trainers and physical educators could optimize learning new motor skills in children with DCD by adopting an external focus of attention during practice. Future studies might examine the effects of external focus of attention on learning new motor skills in other special populations.

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Conflict of interests

The Author declares 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.

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Journal of Modern Psychology

Research Paper: Comparison of the Quality of Life of Elderly Women and Men Living in Nursing Homes

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Abstract

The aim of this study was to evaluate the quality of life of the elderly and compare it between men and women. In this cross-sectional study, four elderly homes in the city of Ardabil were randomly selected (two male elderly homes and two female elderly homes) and then 60 elderly (36 female and 24 male) They were asked to answer the SF-36 questionnaire and then the data were analyzed using SPSS 21 software and descriptive and inferential statistics. The results showed that the mean scores of elderly residents of Ardabil in the nursing home in each of the eight sub-scales of the quality of life questionnaire were lower than those of non-elderly people in similar research. Also, the mean scores of these people's quality of life were lower than other elderly people in other studies, and they only had higher scores in terms of energy-fatigue. Another finding of this study was that elderly men had significantly higher scores in energy-fatigue subscales (t = 2.73, p = 0.008), emotional well-being (t = 2/05, p = 0.04) and physical pain (t = 0.22, p = 0.05). According to the results, it seems that the elderly residents of the elderly homes of Ardebil are not well-positioned in terms of quality of life. Although it is inevitable to reduce the quality of life in old age, failure to address the conditions of the elderly and their quality of life can impose material and immaterial costs on the society and these people themselves.

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1. Introduction

Humans go through many stages from the beginning of sperm coagulation to the day of death. During these stages, it is important to pay attention to mental health (Asl et al., 2014; Abaspour et al., 2014; Khayatan et al., 2022; Baniasadi, Ranjbari, Abedini et al., 2022) physical health (Chaharbaghi et al., 2022; Baniasadi, Ranjbari, Khajehaflaton et al., 2022), and problems such as concentration (Baniasadi et al., 2019) decrease of well-being (Hazrati et al., 2022) decrease of resilience (Chaharbaghi., 2022) and other problems. This issue becomes even more important with age. Old age is the last stage of life in this series of stages. Considering the young population of our country and most of the countries in the world, it seems that in the future, the world will face a problem called aging of the population. The population of elderly people over 60 years of age in the world is estimated to be more than 605 million people, and it is estimated that this number will reach two billion people by 2050 (Hamidizadeh et al., 2008). Therefore, the study of this age group is very important and can be used in the implementation of prevention programs because people in this age group also face problems (Baniasadi, Namazizadeh & Sheikh, 2022; Baniasadi, 2023; Dana et al., 2022).

In psychological theories, old age was usually ignored, but one of the people who extended his theory to old age was Erik Erikson. Contrary to theories and ideas that considered old age to be equivalent to stagnation and incapacity, Erikson adopted a more optimistic view. He called this stage cohesion against despair (Mansour, 2002). Also, most of the theories that were presented after Erikson, following him, also dealt with the abilities and strengths of the elderly. For example, some psychologists stated that the elderly show compensatory emotional abilities to compensate for their weaknesses. In his opinion, the elderly are more in touch with their emotions, which helps them to be more proficient in processing emotional information and regulating negative emotions (Berk, 2007). On the other hand, in recent studies on aging, it has been shown that in old age, extroversion decreases slightly and agreeableness increases slightly, which contradicts previous theories indicating a decrease in personality flexibility in old age (Kaplan & Sadook 2008). Therefore, it seems that in recent decades, attention has been paid to the strengths and advantages of old age, but despite this, the problems and weaknesses that these people face cannot be ignored. For example, the rate of suicide in the elderly is high (Kaplan & Sadook 2008). Also, elderly people face physical disabilities. But one of the problems that can appear at the same time as old age is a decrease in the quality of life. Quality of life may be affected by many factors, including physical activity and other factors (Mohammadi, Nafei, Baniasadi & Chaharbaghi, 2022; Dana, et al., 2022; Baniasadi, Ranjbari, Dana & Mofrad, 2022).

In 2001, Viver defined the quality of life as follows: the quality of life is the perception of each person about his health status and the level of satisfaction with this situation (Hamidizadeh et al., 2008). The World Health Organization also defines the quality

of life as a person's understanding of his place in life in the context of the culture system and values in which he lives, which is related to his goals, expectations, standards and concerns (Asl et al., 2016; Shah et al., 2011). Therefore, according to these definitions, there may be a decrease in the quality of life of the elderly, which should be investigated. But in the meantime, we should also pay attention to gender differences.

Biological, psychological and sociological differences between male and female people are mentioned in many texts. For example, it has been found that major depression, eating disorders, specific phobias, and generalized anxiety disorder are more common in women than men, and conversely, the prevalence of alcohol-related disorders, pathological gambling, and paranoid personality disorder is more common in men (Kaplan & Sadook 2008). Therefore, there may be differences in the level of quality of life between the elderly of both sexes.

In the conducted surveys, no research was found about the quality of life of the elderly living in the nursing home of Ardabil city. Also, there are very few studies that have examined the quality of life of the elderly of both sexes. Therefore, according to these cases, the aim of the present study was to investigate the quality of life of the elderly and compare it in both men and women.

2. Methods

This research was cross-sectional-analytical. The study population was all elderly residents of Ardabil nursing homes in 2022. The research sample was randomly selected from four nursing homes in this city (two male nursing homes and two female nursing homes). By referring to these nursing homes, 60 elderly people (36 women and 24 men) were asked to answer the research questionnaires. Demographic information questionnaires and SF-36 questionnaire were used to collect data.

The Short Form Health Survey is a 36-item (SF-36) has 36 questions and consists of eight scales, each scale consists of 2 to 10 items: energy/fatigue, physical functioning, bodily pain, general health perceptions, physical role functioning, emotional role functioning, social role functioning, mental health or emotional wellbeing. Also, from the integration of the subscales, two summary measurements are obtained, the first one is called physical health and the second is called mental health. Except for one question that individually examines the change in a person's health over a period of one year, the rest of the questions are used to calculate the scores of the eight subscales (Muntzari et al., 2006). In the Iranian sample, the internal consistency analysis showed that except for the energy/fatigue scale (a = 0.65), other scales of the Persian version of SF-36 have a minimum standard reliability coefficient in the range of 0.77 to 0.9, and in total its reliability and validity In order to measure the quality of life related to good health, it has been reported (Muntzari et al., 2006).

After collecting the questionnaires and coding them, the data were entered into SPSS software version 21 and analyzed using descriptive (mean and standard deviation) and inferential (t-test of independent groups) methods.

3. Results

60 elderly people were present in this research, including 34 women and 26 men. Also, the average age of the sample group was 74.57 with a standard deviation of 13.06. The people of the sample group obtained the lowest score in the general health subscale (42.83) and the highest score in the emotional well-being subscale (73.20) (Table 1).

Table 1
mean and standard deviation of the sample group in the quality of life questionnaire

Subscales	Mean	Standard Deviation
energy/fatigue	65.25	21.26
physical functioning	47.67	34.69
bodily pain	64.08	32.50
general health perceptions	42.83	14.76
physical role functioning	46.67	42.80
emotional role functioning	47.65	56.67
social role functioning	68.96	25.67
mental health or emotional wellbeing	73.20	18.91

To compare the difference between two groups of elderly men and women, t-test was used for independent groups. The results showed that there is a significant difference between the quality scores of elderly women and men in three subscales, so that men had higher scores in these subscales. Also, according to the results, women had higher scores only in the limitation subscale due to physical performance, but this difference was not significant (Table 2).

Table 2
Comparison of the quality of life of elderly women and men

Subscales	Gender	Mean	Standard Deviation	T	P
Energy/Fatigue	Female	59.44	21.54	2.73	0.008
	Male	73.96	17.93		
Physical Functioning	Female	43.61	33.22	1.11	0.27
	Male	53.75	36.66		
Bodily Pain	Female	57.36	30.59	2.01	0.05
	Male	74.17	33.31		
General Health Perceptions	Female	40.00	15.53	1.85	0.06
	Male	47.08	12.67		
Physical Role Functioning	Female	47.92	40.25	0.27	0.78
	Male	44.79	47.19		
Emotional Role Functioning	Female	54.63	47.24	0.40	0.69
	Male	59.72	49.12		
Social Role Functioning	Female	66.32	25.14	0.96	0.34
	Male	72.92	26.49		
Mental Health Or Emotional Wellbeing	Female	69.22	19.19	2.05	0.04
	Male	79.17	17.17		

4. Discussion

Old age is a period that can be the best stage of human life, but in order to prevent some problems and especially reduce the quality of life of these people, it seems necessary to conduct some studies. This research was the first study that investigated the quality of life of elderly people in Ardabil nursing homes.

According to the results, it seems that the elderly living in nursing homes in Ardabil do not have a good quality of life. For example, in comparison to the research of Albo Kurdi, Ramezani and Qraizi, which they conducted in 2004 on the elderly of Shahin Shahr, the scores obtained in this research were lower in 6 subscales and elderly in Ardabil city only in two subscales of energy/fatigue and The emotional well-being had higher scores (Albo Kurdi, Ramezani and Qraizi., 2004). One of the reasons for this difference can be related to the average age of the sample group in the two studies. In the current study, the average age of the sample group was 74.57, while in the above study, the average age of the sample group was 67.2. Therefore, it seems natural that the quality of life decreases with age.

But another finding obtained from this research was that elderly men had higher scores in three sub-scales of energy/fatigue, emotional well-being and bodily compared to elderly women. In the present explanation, it can be said that although according to most researches, women live longer than men (Saduk and Saduk, 2018), this issue may cause women who face many diseases.

5. Conclusion

In general, it seems that elderly people face a decrease in quality of life. Quality of life is a multi-dimensional concept and includes mental, psychological, social and physical dimensions and to maintain the quality of life of the elderly, attention should be paid to these issues. To prevent this reduction, appropriate interventions such as group exercise and self-care training are available (Hamidizadeh et al., 2008). Also, spirituality has been considered to have a role in the quality of life of people with epilepsy (Giovangoli et al., 2006), and therefore strengthening the spirituality of these people can be useful.

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Conflict of Interests

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

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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 participates 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 da 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.

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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 (Steptoe, 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 participates 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	β	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

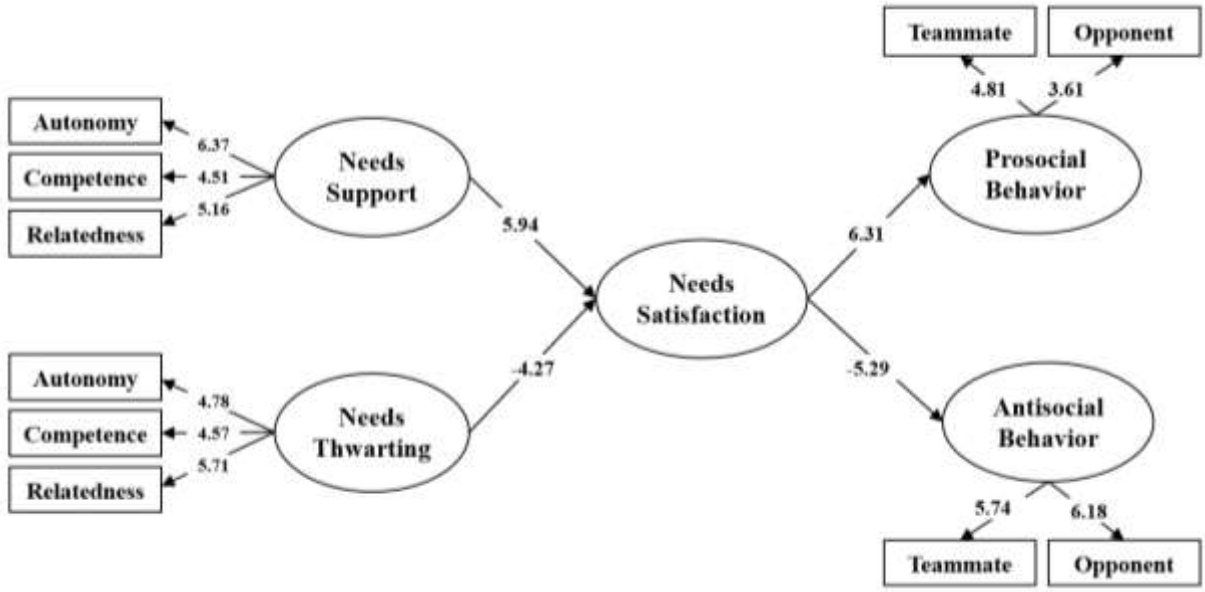

Figure 1. Structural equation modelling

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 results 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.

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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.

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Rahman Institute of Higher Education

Journal of Modern Psychology

Research Paper: Designing a Model of Social Factors Affecting Children's Participation in Physical Activity

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Abstract

Although some factors affecting children's participation in physical activity and sports are well known, the important social factors that influence children's participation in physical activity and sports have not been properly identified. In this study, we aimed to design a model of social factors influencing children's participation in physical activity and sports. The method used in the present research is descriptive-correlation based on the structural equation method. The statistical sample of the study consisted of 384 students who were selected through convenience sampling method. Social factors such as parental socioeconomic status, social support, social competence, and social acceptance were measured using standard questionnaires. Structural equation modelling was used to analyze data. The results of the path analysis showed that parental socioeconomic status, social support, social competence and social acceptance had significant effects on motivation (all T>1.96). Moreover, motivation had significant effect on intention to physical activity (T=3.628). Finally, intention to physical activity had significant effect on physical activity (T=5.189). These results show that social factors can be considered in the process of children's participation in physical activity and sports. In this regard, the role of parents, physical education teachers and friends is very important.

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1. Introduction

A sedentary life has been proposed as one of the main risk factors for heart diseases, and it is estimated that the risk of developing these diseases is twice as high in sedentary people (Malm et al., 2019; Chaharbaghi et al., 2022b). Physical activity, which in simple terms refers to any type of body movement with the help of muscles and bones using the expenditure of energy, acts as an important health-promoting behavior and can prevent or delay various chronic diseases and premature mortality (Caspersen et al., 1985). There are numerous evidences that physical activity and regular exercise lead+ to improvement of mental health, reduction of symptoms of depression and anxiety, satisfaction with life and improvement of quality of life (Lahart et al., 2019; Schwartz et al., 2019). Doing regular exercise (30 minutes a day and two or three times a week) is a proven way to reduce total cholesterol, increase high-density lipoprotein, improve the general health of the body (LDL), and reduce low-density lipoprotein (HDL) (Baniasadi et al., 2022a; Baniasadi et al., 2022b; Abdoshahi et al, 2022; Gholami & Rostami, 2021; Ghorbani et al., 2020; Naeimikia & Gholami, 2018). In children, this amount is recommended to be 60 minutes of moderate to vigorous physical activity daily at least 5 days a week (Bull et al., 2020). However, modern lifestyle has led to people's desire to choose a sedentary lifestyle, and this trend is also evident in children and adolescents (Caspersen et al., 1985; Baniasadi et al., 2022a).

It is widely acknowledged that today the level of physical activity of children and adolescents is lower than the recommended level (Sallis et al., 2016). Research evidence shows that the decrease in physical activities with increasing age is the most severe between the ages of 13 and 18 (Baniasadi et al., 2022a; Baniasadi et al., 2022c; Chaharbaghi et al., 2022a). Based on the available evidence, the level of physical activity among children is severely insufficient, which can endanger their current and future health. Studies have shown that currently only 20-25% of girls and 35-40% of boys follow the World Health Organization guidelines of at least 60 minutes of moderate-to-vigorous physical activity per day (Štefan et al., 2018; Sheikh et al., 2021; Sheikh et al., 2022; Dana et al., 2022). For example, in Mexico, children aged 9-11 years watch more than two hours of television per day, which is much higher than recommended by the World Health Organization (Hashemi Motlagh et al., 2022). Bos et al. (2006 as cited in Hazrati et al., 2022) examined the physical activity and health status of 9-, 14-, and 18-year-old children in Luxembourg and found that only 18% of girls and 35% of boys were physically active for at least 60 minutes per day. Baddou et al. (2018 as cited in Mohammadi et al., 2022) showed that boys meet the international guidelines of doing at least 60 minutes of moderate-to-vigorous physical activity per day more than girls. Therefore, the World Health Organization has set a goal to increase physical activity by 15% by 2030 in boys and girls. There is an urgent need for substantial action aimed at reducing the level of insufficient activity and a special focus on girls (Bull et al., 2020).

Various studies on physical activity behavior of children and adolescents have shown that physical activity significantly decreases with age, and this causes an increase in the prevalence of obesity and overweight in children (Saeedpour-Parizi et al., 2020; 2021). Considering these facts, the physical activity of children and adolescents has become a key topic in research related to pediatrics, sports and health during the last decade. Considering the benefits of physical activity and sports for children, one of the basic issues that must be investigated in this field is the processes that determine children's participation in physical and sports activities. Motivation can be one of the important variables in predicting the children's participation in physical activity and sports (Cid et al., 2019).

Although some factors affecting motivation to participate in physical activity and sports are known, the important social factors that motivate children to participate in physical activity and sports have not been properly identified. In this study, we aimed to design a model of social factors influencing children's participation in physical activity and sports. Some social factors such as social support, socio-economic status, social competence, and social acceptance have been included in the model.

2. Methods

2.1. Participants

The method used in the present research is descriptive-correlation based on the structural equation method. The current study was conducted based on the ethical considerations contained in the Declaration of Helsinki. The statistical population of this research includes all male children of Tehran who were studying in one of the primary schools in 2022. The statistical sample of the study consisted of 384 students who were selected through convenience sampling method.

2.2. Measures

2.2.1. Parental socioeconomic status: Parental socioeconomic status was measured by two items, namely, parents' education level and household income (Farhangnia et al., 2020). Using self-reported data, we created three categories for parent education including low (score 1), medium (score 2), and high (score 3). Similarly, we created three categories for parent income including low (score 1), medium (score 2), and high (score 3). The average score of education and income built total score. Accordingly, a score between 0 to 1, 1 to 2, and 2 to 3 represses low, medium, and high parental socioeconomic status, respectively. In this study, Cronbach's α of this questionnaire was 0.92.

2.2.2. Social support: Social support was measured using a questionnaire (Golaszewski & Bartholomew, 2019) with seven items scored on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). Cronbach's alpha of this questionnaire was reported to be 0.85 in this study.

2.2.3. Social competence: In this study, we measured social competence using Perceived Social Competence Scale (PSCS) (Abdi et al., 2022) with six items scored on a 5-point Likert-type scale (not at all [1], a little [2],

some [3], a lot [4] and very much [5]). Thus, the range of possible scores for the PSCS is 6 to 30. Cronbach's alpha of this questionnaire was reported to be 0.93 in this study.

2.2.4. Social acceptance: We used the subscale "social acceptance" from the Self Perception Profile for Children (Harter, 2012), with six items scored on a 4-point Likert-type scale, where a score of 1 indicates a low competence perception and 4 indicates a high competence perception. The items of this scale have two opposite options; For example: "Some kids find it hard to make friends. BUT Other kids find it pretty easy to make friends". Each option has two answers:1- It is true about me; 2- It is not true about me. Cronbach's alpha of this questionnaire was reported to be 0.87 in this study.

2.2.5. Motivation: Motivation for physical activity in leisure-time was measured by using four questions that were designed on the basis of Intrinsic Motivation Scale (Seyedi Asl et al., 2016). Each question was scored on a Likert scale from completely disagree (1) to completely agree (7). Cronbach's alpha of this questionnaire was reported to be 0.90 in this study.

2.2.6. Intention to physical activity: The intention of children to participate in physical activity during the leisure time was measured using two questions (Abdoshahi et al., 2022) which were assessed using a Likert scale from completely disagree (1) to completely agree (7). Cronbach's alpha of this questionnaire was reported to be 0.82 in this study.

2.2.7. Physical activity engagement: We measured leisure-time physical activity using the Physical Activity Behavior in Leisure-Time Scale (Sheikh et al., 2021) including three questions scored based on an eight-point Likert scale from zero days (0) to seven days (7). Cronbach's alpha of this questionnaire was reported to be 0.92 in this study.

2.3. Data analysis

Descriptive analysis including means and standard deviations was used to describe the research variables. Pearson correlation test was utilized to measure bidirectional associations between research variables. Finally, structural equation method by using Lisrel was used to investigate the structural relationships between research variables. Significant levels were considered at the alpha level of 0.05.

3. Results

3.1. Descriptive data

The demographic characteristics of the participants including age, height, weight, and body mass index are shown in Table 1. The age range of the participants was between 7 and 12 years and their average age was 10.21 years. Also, the demographic findings showed that the average body mass index of children was 17.21, which indicates that the height and weight of children are within the normal range.

Table 1

Average and standard deviation of the demographic components of the research subjects

Variable	Age (years)	Height (cm)	Weight (kg)	Body mass index
Mean ± SD	10.21 ± 1.69	139.22 ± 10.16	32.22 ± 7.82	17.21 ± 1.51

3.2. Associations between measured items

The results of Pearson correlation tests (Table 2) showed significant direct associations between parental socioeconomic status, social support, social competence and social acceptance with motivation, intention, and physical activity (all P<0.001).

Table 2

Results of associations between measured items

	Parental socioeconomic status	Social support	Social competence	Social acceptance
Motivation	r=0.428	r=0.284	r=0.334	r=0.630
	P<0.001	P<0.001	P<0.001	P<0.001
Intention to physical activity	r=0.339	r=0.691	r=0.208	r=0.289
	P<0.001	P<0.001	P<0.001	P<0.001
Physical activity	r=0.471	r=0.267	r=0.490	r=0.406
	P<0.001	P<0.001	P<0.001	P<0.001

3.5. Path analysis

The results of the path analysis are presented in Table 3 and Figure 1. The results showed that parental socioeconomic status, social support, social competence and social acceptance had significant effects on motivation (all T>1.96). Moreover, motivation had significant effect on intention to physical activity (T=3.628). Finally, intention to physical activity had significant effect on physical activity (T=5.189).

Table 3

Results of path analysis

	Path	β	T-value
1	parental socioeconomic status => motivation	0.482	5.127
2	social support => motivation	0.236	2.943
3	social competence => motivation	0.307	3.910
4	social acceptance => motivation	0.634	7.018
5	motivation => intention	0.351	3.628
6	intention => physical activity	0.588	5.189

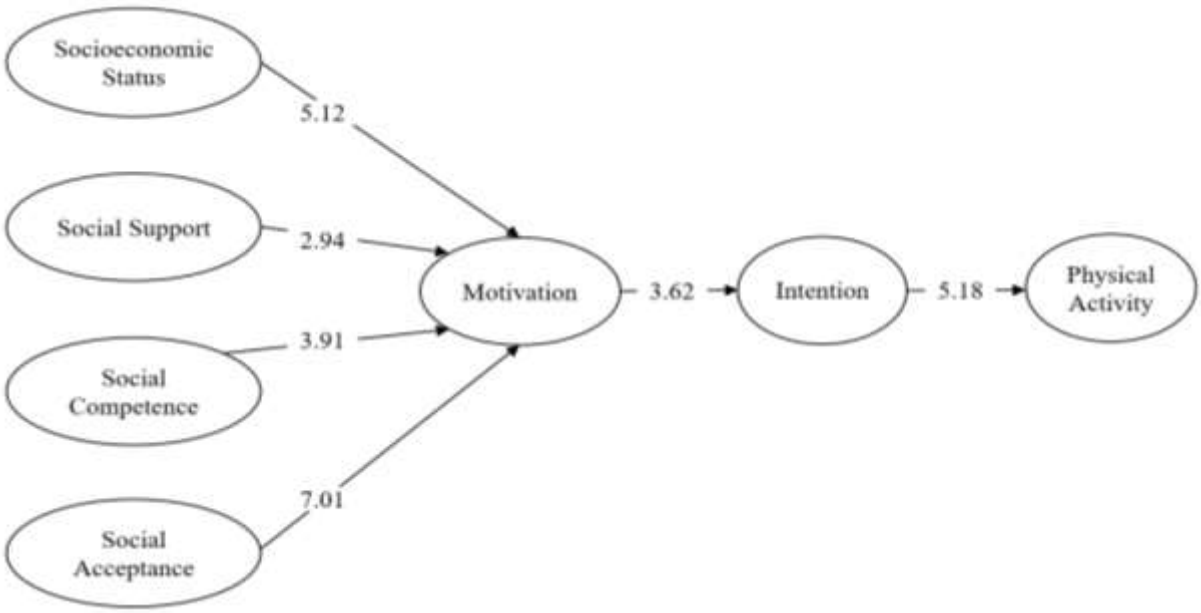

Figure 1. Results of path analysis in the form of T-Values

Results of model fit are presented in Table 4. As shown, we observed very good fit for the research model as RMSEA was 0.07.

Table 4.
Results of model fit

Index	Optimal Range	Obtained Value	Conclusion
RMSEA	< 0.08	0.07	Good fit
X^2 / df	< 3	2.63	Good fit
RMR	Closer to 0	0.02	Good fit
NFI	> 0.9	0.93	Good fit
CFI	> 0.9	0.94	Good fit

4. Discussion

Although some factors affecting children's participation in physical activity and sports are well known, the important social factors that influence children's participation in physical activity and sports have not been properly identified. In this study, we aimed to design a model of social factors influencing children's participation in physical activity and sports. Some social factors such as socio-economic status, social support, social competence, and social acceptance have been included in the model. First of all, data on physical activity showed that the amount of physical activity of children included in this study was very low, indicating that the children do not meet the WHO guideline. These results are in accordance with previous findings (Sallis et al., 2016; Baniasadi et al., 2022a, Baniasadi et al., 2022c; Chaharbaghi et al, 2022a; Štefan et al., 2018; Sheikh et al., 2021; 2022; Dana et al., 2022), showing that

children and adolescents worldwide do not have enough amounts of physical activity. Considering the health benefits of participation in regular physical activity for children and adolescents (Lahart et al., 2019; Schwartz et al., 2019; Baniasadi et al., 2022a, Baniasadi et al., 2022b; Abdoshahi et al., 2022; Gholami & Rostami, 2021; Ghorbani et al., 2020;), it seems necessary to implement practical interventions and strategies to increase and improve the amount of physical activity in children and adolescents. In this regard, strategies that focus on increasing the motivation of children and adolescents to participate more in physical activity and sports can be of great importance.

Concerning social factors influencing the participation of children in physical activity, the results of this study showed that some factors such as socio-economic status, social support, social competence, and social acceptance had significant and positive effects on motivation, intention, and physical activity among children. Therefore, it can be stated that social components associate with participation of children in physical activity. These findings, also, support ecological systems theory (Santos et al., 2004), which holds that children's sports participation is affected by a series of environmental systems around the person, such as social support, parental socioeconomic status, parental support, peer support, and school sports facilities etc. The results of this study are also consistent with the results of previous studies (Santos et al., 2004; Taghva et al., 2020; George et al., 2019; Sumimoto et al., 2021; Khosravi et al., 2023; Green et al., 2004; Seyedi Asl et al., 2021; Hwang et al., 2017; Ball et al., 2007; Garcia et al., 2019; Yu et al., 2019) showing that social support and social environment influence people's participation in physical activity and sports. Supporting measures in the form of companionship and support, counseling or even feedback about the visible effects of sports on the individual at the level of family, friends and others, undoubtedly play a stimulating role for children's participation in physical activity and sports.

Another important finding of the present study was that motivation was an important and key factor in the research model. In fact, the results showed that social factors have positive effects on children's motivation to participate in physical activity. Also, the motivation created can increase children's intention to participate in physical activity. These findings are in accordance with the findings of previous studies (Cid et al., 2019), highlighting again the positive impact of motivation on participation of children and adolescents in physical activity and sport (Abdoshahi et al., 2022; Baniasadi et al., 2022c). Internal motivation is an important factor in the occurrence of physical activity, because it insists on the occurrence of physical activity in the absence of any external motivation (Farhangnia et al., 2020). For example, parents and teachers who can enhance students' intrinsic motivation, can encourage students to perform more physical activity. It might be possible that the promotion of motivation by using more social support makes students to feel a sense of enjoyment over their actions, and this feeling leads to a sense of competence and

satisfaction, which in turn leads to participation in physical activity.

A strong point in the current study is that some social factors that were less considered in previous researches were investigated in the current study. Examining these factors made a model of social factors affecting children's participation in physical activity and sports to be drawn. Also, the relatively large research sample in the study research facilitates the generalization of the results. However, one of the limitations of the current study was the use of a questionnaire to measure physical activity in children. It has been shown that subjective tools (such as questionnaire) create bias in measuring physical activity (Slootmaker et al., 2009). Therefore, it is suggested to use objective tools (such as accelerometer) to measure physical activity in future studies.

5. Conclusions

The current study aimed at designing a model of social factors affecting children's participation in physical activity and sports. We found that factors such as socio-economic status, social support, social competence, and social acceptance positively affect children's participation in physical activity and sports. Also, in the research model, motivation was recognized as an important factor. Finally, the present realization model had a good fit. These results show that social factors can be considered in the process of children's participation in physical activity and sports. In this regard, the role of parents, physical education teachers and friends is very important.

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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.

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Journal of Modern Psychology

Research Paper: The Effectiveness of Cognitive Hypnotherapy in Reducing the Anxiety of Women with Generalized Anxiety Disorder

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Abstract

The aim of the current research was gauging the effectiveness of cognitive hypnotherapy in reducing anxiety in women with generalized anxiety disorder. This research was semi-experimental in terms of practical purpose and data collection. The population of the research included all women with generalized anxiety disorder who had referred to four counseling centers in the city of Bandar Anzali. For this purpose, 30 women were selected according to the psychiatrist's diagnosis of generalized anxiety disorder and were randomly divided into an experimental (15 people) and a control (15 people) group; the short scale of generalized anxiety disorder was implemented on both groups and then, cognitive hypnosis therapy was performed for 2 months during 8 one-hour training sessions, for the participants of the experimental group individually and the control group did not receive any treatment. Next, the said questionnaire was again implemented on both groups. The data were analyzed using the covariance statistical method. The findings showed that cognitive hypnotherapy was effective in reducing the anxiety of women with generalized anxiety disorder. Therefore, it can be concluded that psychologists and psychiatrists can use cognitive hypnotherapy to reduce the anxiety of women with generalized anxiety disorder.

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1. Introduction

Generalized anxiety disorder is one of the most chronic anxiety disorders the main feature is excessive and uncontrollable worry (Khodabakhsh Pirkalani & Rahim Jamarouni, 2013). Worry is mainly verbal, future-oriented, and catastrophizing thinking, which has been identified as a common feature of all anxiety disorders (Newman et al., 2017). The fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* has stated the 12-month prevalence rate of this disorder between 0.4 and 3.6 percent (American Psychiatric Association 2013). It seems that due to the inhibited sympathetic system in these people, their physical symptoms appear in the form of restlessness, fatigue, muscle tension, irritability, and difficulties in concentrating and sleeping (Abdi et al., 2016). On the other hand, worry is the main characteristic of generalized anxiety disorder, which is usually activated as a kind of coping strategy in response to a disturbing negative thought (Wells, 2006). Worry can be thought of as an ineffective cognitive effort to solve the problem and eliminate the perceived danger, while simultaneously causing the avoidance of distressing emotional and physical experiences that naturally occur during the processing of fear exposure. As a result, the worry is reinforced negatively by eliminating scary and disturbing images, and therefore the worry continues (Borkovec et al., 2004). For this reason, psychological intervention has a special place in generalized anxiety disorder. One of the effective methods of intervention in the treatment of generalized anxiety disorder is cognitive hypnotherapy. Cognitive hypnotherapy is a combination of hypnosis with cognitive therapy methods (Robertson, 2013) which is based on the assumption that most psychological disturbances are the result of negative self-talk and acting on the basis of self-suggestion or hypnosis, so that negative thoughts make the patient more suggestible than the persuasive conversations of cognitive therapy when they are critically in the hypnotic state (Burrows et al., 2001). In fact, in this method, hypnosis is directly useful in modifying the core cognitions that revolve around disturbing negative thoughts. In many cases, cognitive hypnotherapists draw the client's attention from the negative aspects of life (which are often true) to the positive and adaptive aspects (which are often potentially true), and the non-verbal nature of hypnotic techniques. It can allow them to access implicit preverbal cognitions. This method can lead to less negative self-talk, reduce negative cognitions or even replace them with positive cognitions and lead to better mental health (Dowd, 1993).

Cognitive hypnosis in itself is accompanied by calmness and a sense of relaxation, so it is effective in the treatment of anxiety. One of the distinctive characteristics of hypnosis is differentiation in a way that enables the patient to separate anxiety into two groups of psychological and physical experiences. Hypnosis enables the patient to learn that he or she has more mastery and control over his existence than he or she imagined and that he or she does not just feel the physiological changes. However, it can even be created (Wells, 2006). During cognitive hypnosis, there is a decrease in

critical thinking and measuring reality, and an increase in the scope of reality distortion, which has different degrees in terms of depth in different trances and is one of the characteristics of the imaginary thinking of the unconscious mind. It is in this state that the subject accepts the suggestions without critical and analytical thinking (Sebastiani et al., 2003); moreover, changes occur in the autonomic central nervous system in response to hypnotic suggestions (Williamson et al., 2002).

Several researches have been conducted to investigate cognitive hypnotherapy on anxiety disorders. For example, Fayyaz et al. (2015) find that group hypnosis training is more effective than group cognitive behavioral training in reducing depression, anxiety and stress disorders. Additionally, Mirzamani et al (2012) show in a study that hypnotherapy can help improve anxiety in anxiety disorders. In the research conducted by Lotfifar et al. (2012) titled the effect of hypnotherapy in reducing anxiety, which was conducted using the covariance method, the results reveal that hypnotherapy is effective in reducing anxiety. In the research of Holdevici and Craciun (2013) examining the effect of hypnosis on the treatment of patients with anxiety disorders, it is shown by the covariance analysis method in which hypnosis plays an important role in the treatment of anxiety disorders. Contrary to the common belief that indicates a moderate level of impairment in the functioning of generalized anxiety disorder, this disorder is associated with significant impairment in psychosocial functioning and rarely recovers by itself and, more than other anxiety disorders, it remains chronic (Mirzamani et al., 2012). Various therapeutic approaches have been used and been effective in the treatment of generalized anxiety disorder, but relying on the discussion of having empirical support, various types of psychotherapies have always caused challenges in the treatment of generalized anxiety disorder. Since the most important sources affecting the reduction of anxiety are cognitive components, the basic assumption in the cognitive approach is to emphasize the fact that cognitive change leads to behavioral and emotional changes as well. Both experience and science support the assumption that even the degree of hypnotizability of humans and the degree of their influence by hypnosis has a direct relationship with their belief and understanding of the process of change (Burrows et al., 2001). Therefore, by correcting and changing inefficient cognitive components (self-centered thoughts, intermediate beliefs, fundamental beliefs) that increase anxiety, emotional and behavioral changes can be made and the level of anxiety can be reduced; in cognitive hypnotherapy, it is assumed that the cause of many psychological discomforts are the negative forms of hypnosis itself, in which negative thoughts are accepted without being criticized and even without awareness, the therapist uses hypnotic techniques, cognitive techniques, modification as well as change, and constructive visualization, and most importantly, suspension of critical thinking, to reduce anxiety (Khayat Ardestani et al., 2020). Consequently, the problem of the current research is whether cognitive therapy hypnosis can be effective in reducing the

anxiety of women with generalized anxiety disorder?

2. Method

This research was practical in terms of purpose and had semi-experimental method with a pre-test and post-test design with a control group. The population included all women suffering from generalized anxiety disorder who had referred to the counseling centers of the city of Bandar Anzali (4 counseling centers) in 2022 for the treatment of this disorder. Generalized anxiety disorder was diagnosed in these people by a clinical interview with a psychiatrist. For this purpose and considering that the minimum sample size in semi-experimental researches is suggested to be 15 people (Wilson & Morgan, 2007), 30 people from this community were selected using the available sampling method based on the entry and exit criteria. They were selected and then randomly assigned to two groups of 15 people for testing and control; then the short scale of generalized anxiety disorder (GAD-7) was performed on both groups; after that cognitive hypnotherapy intervention for eight one-hour sessions (one hour each week) was performed individually on the experimental group and no intervention was performed on the control group. After the implementation of the intervention, the research questionnaire was re-administered on both experimental and control groups. The entry criteria included: their age should be between 20 and 50 years old, their education level is at least a diploma; their hypnotizability based on the criteria provided by Shor and Orne (1963) is between medium (three and above) (Shor & Orne, 1963), they have had the ability to speak and informed consent to participate in the research. Furthermore, the participants were asked to sign the consent form after fully reading the details of the research and it was decided that all their information would remain confidential.

2.2. Instruments

Generalized Anxiety Disorder Short Scale (GAD-7): This scale was created by Spitzer et al. (2006) with the aim of creating a short scale for diagnosing cases of generalized anxiety disorder and measuring the severity of the patients' clinical symptoms, which has seven main questions and one additional question that measures the level of interference in individual and social functions measuring a person's family and career and it is graded based on a four-point Likert scale (never = zero to almost every day = three); thus the highest score of the scale is 21. A score higher than 11 indicates the presence of generalized anxiety disorder in a person. Using Cronbach's alpha coefficient and retest coefficient, the scale score was obtained as 0.92 and 0.83, respectively. The correlation coefficient of the generalized anxiety scale score with the Beck anxiety questionnaires is 0.72, with the mental symptoms checklist with 90 questions is 0.74, and with the health background questionnaire and its dimensions are between 0.30 for the physical performance dimension and 0.75 for the mental health dimension (Spitzer et al., 2006). In the research of Naeinian et al. (2009), the reliability of the scale was obtained based on the retest coefficient of 0.48 at the alpha level of 0.01.

2.2. Training sessions

The training sessions were conducted by a psychologist with a doctorate degree and a valid certificate of completion of cognitive-behavioral and hypnosis courses from the International Hypnosis Association. The outlines of the topics raised during the hypnosis intervention included in the following:

Table 1

Intervention program and cognitive hypnotherapy implementation method based on the protocol of Hawten et al. (1989 as cited in Moghtader et al., 2016)

Session	Task
First	Obtaining a history and getting to know the patients, completing the questionnaire and completing the informed consent form by the participants
Second	Inducing relaxation techniques, expanding awareness and presenting positive thoughts
Third	Reviewing the content of the previous session, self-hypnotic relaxation techniques, conscious expansion in relation to cognitive constructions and providing positive therapeutic suggestions, and at the end coming out of the hypnotic trance and discussing trance experiences and giving homework.
Fourth	Reviewing the contents of the previous session and reviewing the tasks of presenting cognitive hypnotherapy model in a conscious way and expanding awareness and positive cognitive suggestions and indirect suggestions, ending the session and presenting homework.
Fifth	Reviewing the contents of the previous session and reviewing assignments, presenting the cognitive hypnotherapy model with mood and excitement, ending the session and presenting homework.
Sixth	Reviewing the contents of the previous meeting and reviewing the tasks of presenting the cognitive hypnotherapy model in relation to reducing negative disturbing emotions and providing suggestions to increase positive emotions, ending the session and assigning homework.
Seventh	Reviewing the contents of the previous session and reviewing the tasks of presenting the cognitive hypnotherapy model in relation to increasing self-esteem and self-confidence and positive relationships with others, ending the session and assigning.
Eighth	Reviewing the content of the previous session and reviewing assignments, reviewing all sessions and skills taught, discussing the benefits of training and generalizing skills to other aspects of life and increasing rehabilitation.

3. Results

The studied sample was 30 women with generalized anxiety disorder in the city of Bandar Anzali. The mean and standard deviation and research variables are reported in Table 2:

Table 2

Mean and standard deviation of the pre-test and the post-test levels of anxiety in the control and experimental groups

Indicator criterion	Groups	Test	Mean	Standard deviation
Generalized anxiety	Control	pre-exam	15.28	4.19
		Post-exam	14.1	4.08
	Experiment	pre-exam	37.57	14.21
		Post-exam	8.86	9.90

According to the results presented in Table 2, the mean of anxiety in the control group in the pre-test and the post-test was 15.28 and 14.1, respectively; moreover, the mean of anxiety in the experimental group in the pre-test and the post-test was 37.57 and 8.86, respectively. As can be seen in Table 2, the changes in the control group in the pre-test and the post-test stages were insignificant, but the changes in the pre-test and the post-test stages of the experimental group in the generalized anxiety variable were thought provoking.

In addition, in order to perform the covariance test, the p value of the Kolmogorov-Smirnov test was checked in all variables, which was greater than 0.05 (The pre-test of the experimental group, $z=0.323$, $p<0.05$, and the post-test of the experimental group, $z=0.147$, $p<0.05$, and the pre-test of the control group, $z=0.355$, $p<0.05$, and the post-test of the group control ($p<0.05$, $z=0.211$) And therefore, the normality of the variables was confirmed and the F value in Levin's test was not significant, which showed that the assumption of equal variance of adaptive behavior was the same in both experimental and control groups ($p<0.05$, $F=0.217$).

Table 3

Results of covariance analysis of the effect of cognitive hypnotherapy on general anxiety scores

Indicator	Total	Mean	df	F	Sig	η^2
general anxiety	325.30	325.30	1	6.21	0.03	0.55

Based on Table 3, the obtained results revealed that the F value equaled to 6.21 was significant at the error level of less than 0.05. Therefore, cognitive hypnotherapy was

effective in reducing the anxiety symptoms of women with generalized anxiety disorder. The effect size indicated that 55% of the variance of generalized anxiety can be explained through group differences.

4. Discussion

The aim of the present study was to measure and evaluate the effectiveness of cognitive hypnosis therapy on reducing the anxiety symptoms of women with generalized anxiety disorder. The results showed that cognitive hypnosis therapy was effective in reducing the anxiety symptoms of women with generalized anxiety disorder. The results of the present research are in agreement with the researches of Fayyaz et al. (2015), Mirzamani et al. (2012), Lotfifar et al. (2012), Holdevici and Craciun, (2013), Patterson (2010), Sebastiani et al. (2003), Burrows et al. (2001).

In explaining the obtained results, it can be said that hypnosis was twice more effective than conventional psychotherapies (Badeleh et al, 2013). However, many researchers and clinical experts have observed that hypnosis creates a synergistic effect, especially when it is combined with cognitive behavioral therapy (Shahidi, 2008). Treatments based on hypnosis provide a double strength in cognitive behavioral therapy methods (Helmi et al., 2011). Suspension of critical thinking in the hypnotic state makes the patient more suggestible so that he or she can accept the persuasive conversations of cognitive behavioral therapy (Moghtader et al., 2015). Usually, with the appearance of anxiety, the activity of the sympathetic system also increases. In other words, physiological indicators such as heart rate and blood pressure increase with increasing anxiety. This is while during hypnosis, upon receiving relaxation suggestions, these indicators return to the state of balance and the parasympathetic system will be activated. The activity of this system and the reduction of symptoms such as heart rate have helped to reduce the anxiety level of the patient (Ghadimi et al., 2016). Since hypnosis is associated with a relaxed state and separated from the requirements and tensions of the material environment, psychologically, it puts a person in a safe and relaxed state, which will lead to a reduction in anxiety and worry (Shakibaei et al., 2008).

Cognitive hypnotherapy is one of the methods that can greatly help in strengthening the physical and mental powers of a person by taking a person to the depth of relaxation (Akbari et al., 2016). Besides, in this method, suggestions are given to the person, which indicate that constructive anxiety is a part of life and every person faces it during his life, and after the treatment, this thought should not bother him so much and reduce the negative burden resulting from it. (Soleimani & Esmaieli, 2021). Hypnotherapy has been effective in adapting the patient's life to a truly distressing situation. In hypnosis, there are two important stages of exposure and suggestibility, which can be very effective in patients. In a trance, a person experiences mental conditions that increase the patient's resistance and create a pleasant feeling in a favorable condition (Akbari et al., 2016). Age regression and age advancement in hypnosis can be very effective in calming

and resolving conflicts formed in a person. With age, adjustment of personal complexes makes a person reconcile with his unaccepted parts and achieve a level of acceptance. On the other hand, advancing age causes a person to experience a good sense of life by envisioning himself in the future, which makes him more hopeful for life. Creating this hope increases resilience to achieve desirable results and makes a person more resistant to getting better (Halsband & Wolff, 2015).

Among the limitations of this research was its implementation in the city of Bandar Anzali, and to generalize it to women in other cities and provinces, one should act cautiously, and it was also implemented only on women. The lack of control over economic and social conditions may also increase the level of anxiety and affect the results. In the future, it is suggested that research be conducted on both sexes, and cognitive hypnotherapy therapy should be compared with other psychotherapy methods.

5. Conclusion

Based on the findings of the upcoming research, clinical implications can be considered based on these results. Since today's modern lifestyle requires full adaptation to new situations and presents many sources of anxiety and challenges to people, it is very effective in the treatment of generalized anxiety disorder that the people of a society can develop the ability to control anxiety in the fields of emotion, cognition and behavior with the help of the field of psychology and psychotherapy. Therefore, cognitive hypnotherapy plays an effective role in reducing the anxiety of people with generalized anxiety disorder.

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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.

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