



## 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  $16.96 \pm 0.57$  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  $16.96 \pm 0.57$  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 $\pm$ SD	1	2	3
1. Communication skills	2.68 $\pm$ 0.81	1		
2. Enjoyment	2.21 $\pm$ 0.69	$r = 0.694$ $p = 0.000$	1	
3. Involvement	3.15 $\pm$ 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	$\beta$	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

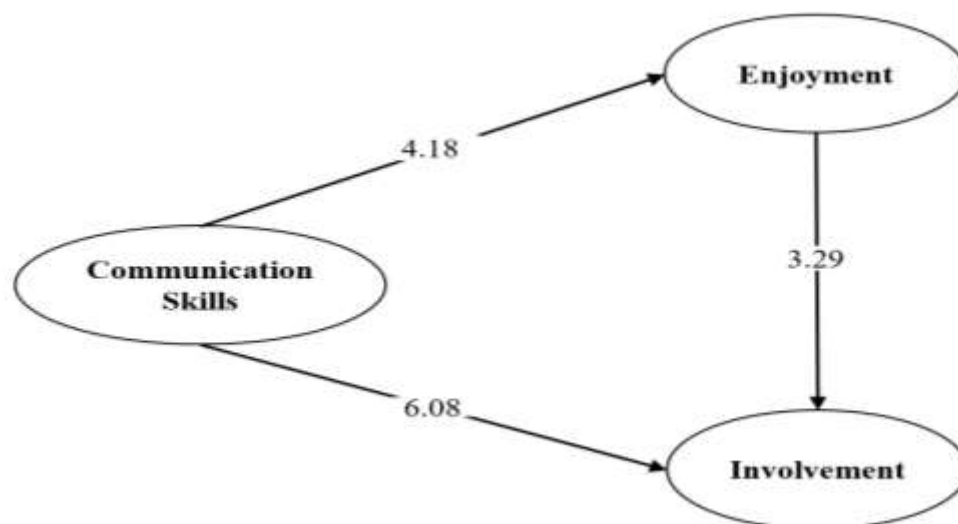


Figure 1. Structural equation modelling

#### 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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