

# The Effects on Students' Psychological Needs and Social-Emotional Competence of Relatedness Support from a Teacher and Peers in Physical Education Class

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## Abstract

*For a smooth daily life, students need to improve their interpersonal skills and social and emotional competences. Research on the relationship between peers as a social relationship factor in a learning environment is considered important, and studying the relationship between teachers as well as peers is required. Accordingly, this study aimed to examine the effects on students' psychological needs and social-emotional competence of relatedness support from the teacher and peers in a physical education class. This study administered a questionnaire-based survey to 379 middle school students in their 1st grade to 3rd grade in South Korea and applied descriptive statistics, correlation analysis, and structural equation modeling to the data. The researcher visited the school of students who had agreed to participate in the study to fully explain the research purpose and proceeded with it by complying with the Statistics Act and research ethics. First, relatedness support from the teacher and peers positively impacted students' psychological needs. Second, their psychological needs positively influenced their social-emotional capacity in the physical education class. Third, the students' psychological needs mediated the relationship between relatedness support from teachers and peers and social-emotional competence in physical education class. The study results suggest the need for social-emotional learning programs to help improve the relationship between teachers and peers and enhance the social and emotional competences of students. Physical education teachers should create a relationship-based learning environment where students can improve the understanding and care of themselves and others and communication skills, actively participate in the learning process, and develop practical skills to control their emotions.*

**Keywords:** Physical education class, Relatedness support, Psychological needs, Social-emotional competence\

## 1. Introduction

Teachers, who represent an important social factor, major other people, may fulfill students' need for relatedness by providing them with a supportive learning environment that is based on a sense of understanding, respect, and consideration; by doing so, they have a positive effect on the motivation and emotional development of students [1]. In the classroom, students

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experience decreased levels of boredom and anxiety and have a more enthusiastic attitude when their need for relatedness is fulfilled in their relationships with their peers and teachers [2].

In recent years, importance has been placed on studies that deal with the subject of relatedness with peers as a factor of social relationships in learning environments [3]. In contrast to classes that take place in the classroom, PE classes help students form social relationships and develop relatedness with their peers through group-based team activities and physical activities. The relationships that students form in PE classes with their peers have an effect on their self-determined motivation and on emotional responses such as by eliciting joy and enjoyment. In the classroom, the presence of mutual support based on feelings of support, encouragement, understanding, and consideration between students [4] has a positive impact on the students' need for relatedness as well as on their emotions and behavior [5]. In particular, it must be noted that for adolescents undergoing puberty, the interactions they have with their peers—when compared to those with their teachers—have a greater impact on their school life, engagement with learning, motivation to learn, and social development [3].

When adolescents do not properly learn or acquire emotional and social abilities, they may experience a variety of problems related to school violence and school maladjustment, in addition to problems with interpersonal relationships and behavioral regulation in their everyday lives [6]. It has been determined that social emotional competencies are effective in preventing school maladjustment and problem behaviors. In addition, they have been found to promote the development of positive attitudes as well as enhance higher-order thinking skills, cognitive strategies, and academic achievements [7]. Studies on social emotional competencies assert that the enhancement of these competencies positively affect the school life of students, their motivation and attitude in the classroom, their ability to regulate emotions, and their engagement with learning. Moreover, such studies state that personal social emotional competencies are affected by stable classroom environments.

While studies on the self-determination theory, which incorporates theories of motivation, are being helpfully and widely used in the field of physical education in recent years, studies on the relatedness between students and teachers as well as the relatedness between students and their peers [5] are only the beginning. Instead, the majority of such studies are limited to the subject of teachers in PE classes [8][9] or deal with the subject of social relationships in small groups, such as the sense of belonging, and the feeling of friendship and closeness between peers, rather than focusing on the subject of classroom environments formed by peer relationships and emotional support. In learning environments, the role of teachers and peers have a significant impact on promoting the growth, development, and learning of students. From this perspective, there is a need for research on students' relatedness with their peers in addition to research on the relatedness between students and teachers in PE classes. Therefore, the purpose of this study is to examine the effect of relatedness support from teachers and peers on the psychological needs and social emotional competencies of students. The research hypotheses of this study are as follows. First, the relatedness support from teachers and peers will have a positive effect on the psychological needs of students. Second, the psychological needs of students will have a positive effect on their social emotional competencies. Third, the psychological needs of students will act as mediator between their learning environments (relatedness support from teachers and peers) and social emotional competencies.

## **2. Methods**

### **2.1. Participants**

The participants of this study were composed of 400 students aged 14 to 16 years who attend a middle school in the Jeollabuk Province of South Korea. Of the collected data, 21 copies with careless responses or responses that followed a uniform rule were removed, and the data of 379 participants were used in this study's analysis. Of these participants, 186 were male students and 193 were female students.

#### **2.2.1. Relatedness support from teachers**

In order to measure the degree of relatedness support from teachers in PE classes, this study utilized a scale that was developed by Cheon, Kim, Song [10], Cox, Williams [11]. The reliability and validity of this scale has been verified by studies [8] that were conducted in the field of physical education. The scale used to measure the relatedness support from teachers was composed of five questionnaire items that included questions regarding personal conversations, assignment-oriented support, cooperation and teamwork, care provided by teachers, and friendly communication styles. The reliability test for this scale resulted in a Cronbach's  $\alpha$  of .937.

#### **2.2.2. Relatedness support between peers**

This study employed the scale used in Cox, Williams [11], Park, Cheon, Kim [12]'s research to measure the degree of relatedness support from peers. The scale used to measure the relatedness support between peers was composed of five questionnaire items that included questions regarding encouragement, understanding and respect, consideration, learning together, and the exchange of opinions. The reliability test for this scale resulted in a Cronbach's  $\alpha$  of .916. Table 0 illustrates the results of performing an exploratory factor analysis to assess the construct validity regarding the relatedness support from teachers and peers, which signify the learning environment of students.

#### **2.2.3. Psychological needs**

An autonomy, competence, and relatedness scale were used to measure the psychological needs of students in PE classes. The scale used in Taylor, Ntoumanis, Standage, Spray [9] and Standage, Duda, Ntoumanis [13]'s studies was utilized as the autonomy scale. For the competence scale, this study utilized the scale used in [12] and [13]'s research. The scale employed in [13] and [14]'s research was used for the relatedness scale of this study, and as it is based on the self-determination theory, it is a suitable scale to measure the need for relatedness. Reliability tests for the scales measuring the relatedness support between peers, which is based on psychological needs, resulted in a Cronbach's  $\alpha$  of .919 for the autonomy scale, a Cronbach's  $\alpha$  of .926 for the competence scale, and a Cronbach's  $\alpha$  of .874 for the relatedness scale.

#### **2.2.4. Social emotional competencies**

An assessment tool developed by Merrell [15] and Zhou, Ee [16] was used to examine social emotional competencies in this study. The social emotional competencies scale consisted of four sub-scales: a self-awareness scale, a self-management scale, a social awareness scale, and a relationship management scale. Reliability tests for these social emotional competencies scales resulted in a Cronbach's  $\alpha$  of .955 for the self-awareness scale, a Cronbach's  $\alpha$  of .949 for the self-management scale, a Cronbach's  $\alpha$  of .922 for the social awareness scale, and a Cronbach's  $\alpha$  of .943 for the relationship management scale.

## 2.3. Data analyses

In order to collect honest and accurate survey data, the researcher of this study explained to the participants that the questionnaires would not be used for any purpose other than the purpose of this study; moreover, this study complied with the Statistics Act and with the ethical standards of research. The data of completed questionnaires were analyzed after they were collected on-site by the researcher and research assistant. This study used the collected data to perform a descriptive statistical analysis, reliability analysis, exploratory factor analysis, and correlation analysis as well as test the structural equation model with the 23.0 IBM SPSS and AMOS software programs.

## 3. Results

### 3.1. Descriptive statistics, reliability, and correlations analysis

The descriptive statistics of individual variables and their correlations are as depicted in Table 1. For descriptive statistics, the mean and standard deviations were calculated; in addition, values of skewness and kurtosis were used to determine whether the normal distribution hypothesis was satisfied. The value of skewness of all variables was .08-.52 and the value of kurtosis was .06-.79, which demonstrated that the hypothesis for normal distribution was satisfied. Next, as the range of correlation coefficient values was from .514 to .685 and the correlation between individual variables was not high (more than .8), it was determined that there was no problem with multicollinearity.

Table 1. Mean, standardized deviation, and correlations analysis

	1	2	3	4
Relatedness support	1			
peer support	.638**	1		
psychological need	.514**	.550**	1	
social emotional competencies	.592**	.573**	.685**	1
Mean (SD)	3.95(.82)	3.81(.78)	3.73(.69)	3.81(.71)
Skewness	-.52	-.41	-.08	-.22
Kurtosis	-.54	-.06	-.18	-.79
** $p < .01$ , SD=Standard Deviation.				

### 4.2. Cause-and-effect analysis and mediated effect analysis

The measurement model was considered to have a satisfactory goodness of fit if it met the standards of a Q-value of 3 or less and the values of RMSEA and SRMR were .08 or less; if the values of CFI and TLI were more than .90, this was interpreted to mean that the goodness

of fit was good. As a result, the goodness of fit test demonstrated that, with a goodness of fit index of  $Q=2.563(x^2=289.650, df=113)$ ,  $p<.000$ ,  $CFI=.966$ ,  $TLI=.959$ ,  $RMSEA=.064$ ,  $SRMR=.0404$ , the research model corresponded with the data.

Table 2. Result a hypothesis test

	Path		Est.	S.E.	C.R.(t)
Psychological needs	←	Teacher support	.266	.049	5.477***
Psychological needs	←	Peer support	.329	.061	5.408***
Social emotional competencies	←	Peer support	.132	.064	2.080*
Social emotional competencies	←	Teacher support	.167	.054	3.104**
Social emotional competencies	←	Psychological needs	.787	.080	9.851***

\*\*\* $p<.001$ , \*\* $p<.01$ , \* $p<.05$ , Est.=estimate, SE=standard error.

The parameter estimates depicted in [Table 2] demonstrate that the relatedness support from teachers and peers in PE classes is an important antecedent variable that predicts the psychological needs of students.

[Figure 1] demonstrates the structural relationship that is proposed by this study. It is possible to see that the relatedness support from teachers and peers has a positive effect on the social emotional competencies of students, with the psychological needs of students as the mediator between the two. Furthermore, it was possible to understand that the relatedness support from teachers and peers has a direct impact on the social emotional competencies of students.

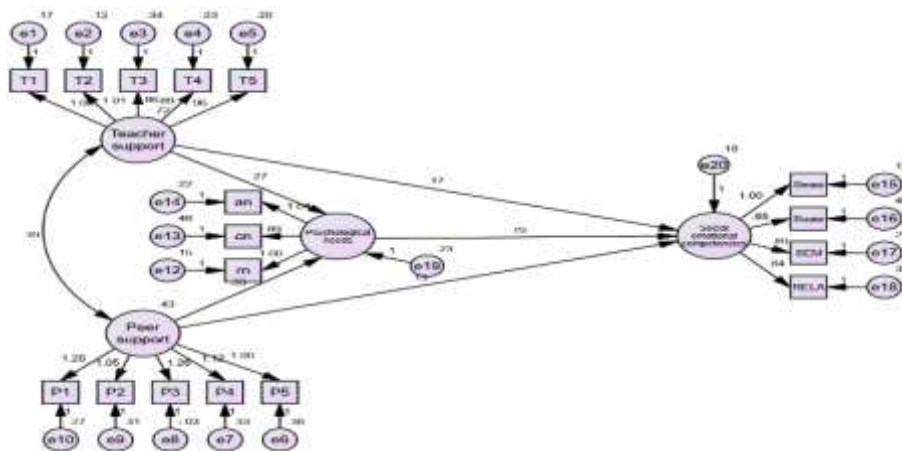


Figure 1. Result of structural equation model analysis

## 4. Discussion

The discussion of this study's findings are as follows. First, the relatedness support from teachers and peers was determined to have a positive effect on the psychological needs of students. When PE teachers respected students' opinions, used friendly communication styles, and presented students with a learning environment that promoted teamwork and cooperation, students were found to have positive emotional experiences and experience a satisfaction of their psychological needs. This result supports the findings of previous research, which states that relatedness support from teachers helps fulfill the psychological needs of students [10]. In addition, this result shows that the provision of relatedness-supportive learning environments improves students' motivation. In particular, for physical education and sports learning environments, the satisfaction of students' psychological needs and their quality of well-being was found to differ significantly depending on the degree of relatedness support from teachers and coaches [17]. Moreover, it was determined that the friendly communication style, empathy, understanding, respect, and enthusiasm of teachers in PE classes elicits students' psychological needs and a high level of class participation by promoting the intrinsic motivations of students [18]. It may be said that middle school students who are undergoing many emotional changes maintain their emotional stability and maintain amicable relationships with their teachers, with the help of learning environments that support teacher relatedness.

Second, the relatedness support from teachers and peers was determined to have a positive effect on the social emotional competencies of students. It could be said that this finding is partially consistent with a study that found the development of positive relationships with peers and teachers has a positive effect on the class participation and emotion regulation of students [19]. Moreover, this finding is also consistent with the results of a study which found that when students develop positive relationships with teachers and peers, and experience trust and support from teachers and other students, this has a positive impact on their ability to self-regulate their behavior, as well as on their academic performance and attitude [20]. Some studies have asserted that teachers must further develop their social emotional competencies in order to strengthen their self-perception and their ability to empathize with students; they have also stated that the aggressive behaviors of students change according to the emotional support of teachers [21]. It is highly possible that the social emotional competencies of students are greatly affected by how well teachers provide them with learning environments in which students can effectively communicate and cooperate with their peers.

Third, it was determined that the psychological needs of students have a positive effect on their social emotional competencies, while also acting as a mediator between learning environments with teacher and peer support and the social emotional competencies of students. This finding demonstrates that the psychological needs of students can be fulfilled by the relatedness support from teachers and peers, as well as showing that social emotional competencies can be further developed when basic, personal psychological needs are satisfied [22]. It was found that the relatedness support from teachers and peers have a direct impact on social emotional competencies, and more specifically, that the relatedness support from teachers and peers have an effect on the social emotional competencies of students through the mediator of students' psychological needs [23]. The emotional role that teachers and peers play has a significant impact on the school adjustment and emotional well-being of students [2]. This finding partially supports the results of a study which asserts that teachers with highly developed social emotional competencies not only help the development of positive relationships between students, and between teachers and students, but also contribute to the enhancement of positive attitudes by strengthening emotional bonds.

## 5. Conclusion

The findings of this study determined that learning environments that support teacher and peer relatedness help satisfy the psychological needs of students, in addition to having a positive effect on their social emotional competencies. In particular, it was discovered that the basic psychological needs of students act as a mediator that promotes the social emotional competencies of students as well as promoting learning environments that are based on the support of teachers and peers. Such research findings propose the necessity of social emotional learning programs that would enhance students' relatedness with their teachers and peers as well as develop their social emotional competencies.

Despite the educational significance of this study, which was discussed above, there are a few limitations. As this study used a cross-sectional study design to verify the relationships between variables by collecting data that was based on the setting of PE classes, it was unable to examine the complete causal relationships. Follow-up studies must demonstrate a high level of validity regarding the findings of this study by employing a longitudinal or prospective study design.

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