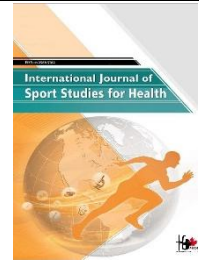


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Evaluation of Parents' Perceptions Regarding the Contribution of Physical Education Lessons to Social Development: The Case of Bartın



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ABSTRACT

Objective: Parents' views on the educational process offer a significant perspective for understanding the educational and social functions of physical education classes, which are not reduced solely to physical activity. Therefore, the aim of this study is to determine the perceptions of parents of students taking physical education (PE) classes regarding the contributions of these classes to their children's social development and to examine whether these perceptions differ according to the sociodemographic characteristics of the parents.

Methods and Materials: The study was planned in two phases. The first phase of the study was carried out in Bartın, Türkiye, and the second phase will be conducted later as a secondary study in Baku, Azerbaijan. In this first phase, 226 participants living in Bartın were administered the Perceived Social Development Scale for Physical Education Lessons (PSDSPEL), a 15-item, 5-point Likert-type scale, with their sociodemographic information. The data obtained were analyzed using the Jamovi 2.

Findings: The results of Bartın phase showed that parents generally have a positive perception of PE classes in terms of their contribution to students' social development. The most significant finding is that parent perception scores differed significantly according to educational levels of parents, with parents holding a university degree scoring particularly high. Additionally, parent perception did not differ based on gender or the number of children.

Conclusion: The findings revealed that in Bartın, parents consider PE classes an important educational environment for their children's development of their social skills, including adaptation to society, cooperation, responsibility, interpersonal relationships, and social abilities rather than physical development. The findings suggest that parents perceive PE classes as an educational environment that may contribute to their children's social development and that these perceived contributions should be considered in the pedagogical planning of PE classes.

Keywords: Physical Education, Social Development, Parental Perception, ANOVA

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1. Introduction

Today, individuals, especially during adolescence, are confronted with rapidly changing socio-cultural structures and diverse value systems. New moral issues and ethical dilemmas emerging in modern society further complicate this process (1). In this context, ethics and values education plays a significant role in supporting the social and moral development of young people (2). One of the processes related to moral development during adolescence is the individual's ability to evaluate the consequences of their actions and develop responsibility (3).

Physical Education (PE) classes are considered an important educational field that supports not only students' physical fitness but also their motor, cognitive, emotional, personal, and social development through a holistic approach (4, 5). In this regard, PE plays a critical role in facilitating students' active participation in social life, developing their social interaction skills, contributing to their adaptation to the existing society, and preparing them for the future by supporting them in acquiring values, attitudes, and competencies they can use throughout their lives (6, 7).

One of the second-generation models based on democratic and student-centered teaching approaches, frequently used in the field of physical education and widely discussed in scientific studies, is the Sports Education (SE) model (8, 9). The SE model is considered a teaching model based on a socio-constructivist learning approach that centers learning, emphasizes the assessment of student achievements, and encourages individuals' voluntary participation in sports environments with a positive learning climate (8). The model's fundamental approach aims to enable students to take an active role in the learning process, thereby developing their decision-making skills and fostering a sense of autonomy and responsibility. This process is primarily facilitated through implicit, informal, and inquiry-based teaching methods (5). The components of the SE model, such as seasonal structure, team membership, official competitions, culmination events, record-keeping practices, and celebratory/festive elements, align with Siedentop's approach (10), which aims for students to develop not only as athletes but also as knowledgeable, competent, and sports-enthusiastic individuals. Within this framework, students are offered learning experiences in which they can assume different roles and responsibilities, such as coaches, referees, statisticians, scorekeepers, board

members, or sports administrators without being limited to player roles.

PE classes play an important role in conveying and teaching values such as tolerance, perseverance, freedom, responsibility, solidarity, and belonging (11). In addition to these values, PE teachers play an important role in moral development by instilling values such as sportsmanship, teamwork, and fair play in students (12). Taking all these values into consideration, PE classes provide an environment that supports students in communicating with their peers and allows them to adapt to social and societal rules (10, 13). In this context, PE classes are considered a positive and effective tool for students in terms of developing social adaptation skills and establishing healthy social relationships (14).

In summary, considering that PE classes contribute to students' multifaceted development, including physical growth as well as social development, cooperation, responsibility, peer relationships, and social adaptation, it is important to determine how these contributions are perceived by parents. In particular, parents' perspectives on the educational process offer an important viewpoint for understanding the educational and social functions of PE classes, which are not reduced solely to physical activity. The purpose of this study is to determine the perceptions of parents of students taking PE classes regarding the contributions these classes make to their children's social development and to examine whether these perceptions differ according to the sociodemographic characteristics of the parents (gender, education level, income level, and number of children). The study was planned in two phases. The first phase was conducted in Bartın province. The second phase will be conducted in Baku, Azerbaijan, and due to its impact on the study's length, the Azerbaijan phase will be included in a separate study. Thus, at the end of the second study, the situation between Türkiye and Azerbaijan can be compared and the differences between the two countries can be highlighted.

1.1 Literature Review

The literature related to this study has been summarized based on the topics of students taking PE classes, student development in the field of physical education classes, and parents of students taking PE classes.

In studies conducted on the students, Uğraş and Tural (15) and Yücekaya (16) examined the happiness levels of middle school students in the PE class and stated that their happiness

levels in physical education classes were high. Yücekaya (16) pointed out that male students, in particular, are happier than female students in PE classes. In the study by Namlı et al. (17) which used metaphors to assess students' perceptions of PE lessons, students stated that they categorized PE lessons as developmental, relaxing, activity-providing, and exploratory. These findings indicate that students perceive PE classes not only as a class where physical activities are performed, but also as a learning environment where they develop themselves, relax, and gain new experiences. Çalışır and Murathan (18) evaluated the attitudes of middle school students towards PE courses by making comparisons according to settlement location and school types in their study. The study concluded that there were significant differences in the average scores of students' attitudes towards PE classes based on factors such as being on a school team, physical education status, grade level, transportation to school, school location, father's occupation, and mother's education level.

The contributions of PE classes to students' development have been examined in various studies through student opinions. For example, in a study examining middle and high school students' views on PE classes, students expressed positive perceptions of the class, additionally stating that it was fun, beneficial, and particularly important in terms of socialization and healthy living (19). In their study, Holt et al. (20) examined the perceptions of school staff and children regarding school physical education, intra-school sports, and sports teams in order to identify factors that facilitate or hinder positive youth development. They highlighted that developing empathy and social bonds is the most important aspect related to positive youth development. Tendencia et al. (21) emphasized in their study that the Sports Education Model increased student motivation in physical education classes. Deveci (22) investigated the effect of PE on the general development of students in the context of education and emphasized that the inclusion of PE courses in the school curriculum provides students with positive results in a wide range of areas including psychosocial, physical, cognitive, psychomotor, emotional and health. Similarly, research conducted among different age groups shows that attitudes towards PE class are positive and that the class contributes to students' development in many ways (23-25).

The structure of PE classes and the pedagogical approaches used also play an important role in determining the class's contribution to students' social development. The literature reports that different pedagogical approaches can

support students' development of characteristics such as responsibility, cooperation, interpersonal relationships, and social competence. A systematic review of the Personal and Social Responsibility model used in PE classes indicated that the model is used to develop meaningful and transferable life skills in children (26), while the results of the systematic review and meta-analysis also revealed that the model has positive and significant effects on the social and emotional outcomes of children and adolescents (27). While a systematic review of collaborative learning shows that this approach is associated with different developmental areas in the physical education setting (28), the study by Goudas and Magotsiou (29) found that a collaborative physical education program had positive effects on students' social skills and attitudes towards group work. Similarly, a study examining the Sports Education model presented that the model can support the development of students' social competencies, as well as citizenship education and social relationships (30). Furthermore, in a systematic review and meta-analysis of Self-Determination Theory in physical education, it was found that teachers' approaches supporting students' autonomy and competence, as well as teacher-peer relationships, are associated with students' adaptive outcomes (31).

Studies in the literature that consider parents' opinions regarding PE classes show that parents' attitudes towards PE are generally positive (32, 33). In addition, according to the results of the study carried out by Öztürk et al. (34) on parental attitudes towards PE classes in middle schools in Adıyaman, significant differences were observed in parents' attitudes towards PE classes based on the students' sports status and the parents' education level. Fleet and Early (35), in their research on parents' perceptions of middle school physical education, stated that 50% of parents consider that PE is as important as subjects like Math, English, and Science, and that parents' awareness of the critical role PE plays in students' well-being and health has increased. Koç, Yılmaz and Özkan (36) stated that the families of children attending special education vocational schools shared the view that PE classes provide numerous benefits to students with special needs and should be spread throughout the week.

Among international studies examining the demographic characteristics of the parents of students attending PE classes, Ružbarská et al. (37) emphasized that parents want the weekly number of physical education hours to exceed two hours per week and that parents with higher education levels consider this increase to be important. As an example

of studies conducted on at the national level, Özkan (38) evaluated the perceptions of middle school parents in Hakkari province using the “Parental Attitude Scale towards Physical Education Class” (PAS-PE). The study concluded that significant differences were found in parents' attitudes towards PE classes based on their age, education level, whether they followed sports news, and whether they participated in sports; however, no differences were observed based on income level or gender. In their study using the PAS-PE, Gönener and Dülger (39) emphasized that there were statistically significant differences in the attitudes of parents with children aged 9-12 in Kocaeli province towards PE according to their education level and the class level of their children, but there was no significant difference according to gender and sports activity history. Furthermore, they pointed out that parents with higher education levels exhibited a more positive attitude towards PE classes. In the study led by Pepe et al. (40) in Burdur province, the PAS-PE was used, and it was observed that parents' attitudes towards PE lessons differed according to gender but did not differ according to education level.

A general review of the literature reveals that studies conducted in different provinces of Türkiye show that demographic factors such as education level and gender affect parental attitudes in different ways. Therefore, it is a matter of curiosity whether parents' perceptions of PE classes in Bartın province change according to their sociodemographic characteristics. Furthermore, the fact that, to the best of the researchers' knowledge, no previous study has been found based on parental opinions of students taking PE class in Bartın province or its surroundings, and that the results will be compared with those from Baku in the second phase of the study are the most important contributions of this study. Additionally, the use of the Perceived Social Development Scale for Physical Education Lessons (PSDSPEL) scale in this study is a key point that distinguishes it from other studies in literature. For these reasons, it is believed that this study will make a significant contribution to the literature by determining the perceptions of parents in Bartın province regarding the contributions of PE to their children's social development, examining how these perceptions vary according to the sociodemographic characteristics of the parents, and comparing the results with those of another country in the second phase.

2. Methods and Materials

In this study, 226 participants residing in Bartın were administered the Perceived Social Development Scale for Physical Education Lessons (PSDSPEL), a 15-item scale answered on a 5-point Likert scale, along with sociodemographic information including gender, age, education level, income level, and number of children. The data obtained were analyzed using the Jamovi 2 software package (41).

For the measurement model, a second-order confirmatory factor analysis (CFA) was conducted using the Diagonally Weighted Least Squares (DWLS) estimation method with robust standard errors. Given that the PSDSPEL consists of five-point Likert-type items, the ordinal nature of the indicators was taken into account in the estimation procedure. Model fit was evaluated using the chi-square (χ^2) statistic, degrees of freedom (df), chi-square to degrees of freedom ratio (χ^2/df), CFI, TLI, SRMR, and RMSEA with its 95% confidence interval.

During the analysis process, the reliability and validity values of the scale were examined first. Descriptive statistics were presented for demographic variables, and normality test results were given for the scale statements. In the final stage, Independent Samples t-Test and ANOVA analyses were applied to test the first three hypotheses. For the fourth hypothesis, Welch's ANOVA was used instead of the conventional ANOVA because unequal variances were detected between the groups. Variables showing significant differences in the ANOVA results were examined using post-hoc Scheffé tests. All analyses were performed and reported using the Jamovi program. In all analyses, the statistical significance level (p) was set at 0.05. A p -value less than 0.05 was considered statistically significant, whereas a p -value greater than or equal to 0.05 was considered statistically non-significant.

3. Results

3.1 Research Group

The scale was applied to 260 participants. After reviewing the responses of 260 participants, those who left some questions unanswered and those who gave the same score to all questions (a total of 34 participants) were excluded from the survey. Therefore, the analysis was conducted based on the responses of the remaining 226 participants. The findings regarding the sociodemographic

characteristics of the 226 parents of middle school students are presented in Table 1.

Table 1. Demographic Characteristics

Demographic Information	Categories	Number (n)	Ratio (%)
Gender	Female	134	59.3
	Male	92	40.7
Education Level	Primary School	11	4.9
	Middle School	22	9.7
	High School	52	23.0
	Undergraduate	128	56.6
	Graduate	13	5.8
Income Level	Low	29	12.8
	Moderate	124	54.9
	Good	73	32.3
Number of Children	1	75	33.2
	2	124	54.0
	3 and above	73	12.8
Age	min-max	average	ss.
	21-69	38.9	9.54

According to Table 1, in terms of gender, the largest group of participants was female with 59.3%, in terms of education level, the largest group of participants had a bachelor's degree with 56.6%, in terms of income level the largest group perceived their income level as moderate with 54.9%, and in terms of number of children, the largest group of participants had two children with 54.0%. The ages of the participants ranged from 21 to 69, with an average of 38.9.

3.2 Scale

In this study, the "Perceived Social Development Scale for Physical Education Lessons (PSDSPEL)", developed by Karaca and Filiz (2024) was used to describe parents' perceptions of their children's social development in physical education lessons. This scale has four sub-dimensions and a total of 15 items. The Showing Responsibility (SR) sub-dimension has three items, the Cooperating (C) sub-dimension has four items, the Showing Positive Behavior (SPB) sub-dimension has three items, and the Communicating (CO) sub-dimension has five items. The reliability and validity values of the scale were given by

Karaca and Filiz (42) with Cronbach alpha between 0.74 and 0.79 for each sub-dimension.

3.3 Normality Analysis

When determining whether the dimensions are normally distributed, skewness and kurtosis values should be examined. According to Tabachnik and Fidell (43), an accepted approach in the literature, the distribution of responses can be considered normal if the skewness and kurtosis values are between -1.50 and +1.50. In this context, based on the skewness and kurtosis values the assumption of normality is met in the overall score of the Perceived Social Development Scale for Physical Education Lessons (PSDSPEL).

3.4 Second-Order Confirmatory Factor Analysis

Table 2 shows the factor analysis findings for the PSDSPEL used in the research. Since the scale consists of four sub-dimensions and only this scale was used in the study, second-order CFA was performed.

Table 2. Measurement Model Results

					β 95% Confidence Intervals			
Latent	Observed	Estimate	SE	β	Lower	Upper	z	p
SR	SR1	1.000	0.0000	0.790	0.735	0.845		
	SR2	1.153	0.0385	0.911	0.883	0.940	29.9	$\leq .001$
	SR3	1.213	0.0400	0.958	0.937	0.980	30.3	$\leq .001$
C	C1	1.000	0.0000	0.960	0.934	0.985		
	C2	0.944	0.0160	0.906	0.879	0.934	58.9	$\leq .001$

	C3	0.934	0.0153	0.896	0.867	0.926	61.0	≤ .001
	C4	0.937	0.0196	0.899	0.868	0.930	47.9	≤ .001
SPB	SPB1	1.000	0.0000	0.800	0.753	0.848		
	SPB2	1.110	0.0287	0.888	0.856	0.920	38.6	≤ .001
	SPB3	1.130	0.0275	0.904	0.870	0.938	41.1	≤ .001
CO	COM1	1.000	0.0000	0.937	0.916	0.959		
	COM2	0.966	0.0126	0.905	0.878	0.933	76.7	≤ .001
	COM3	0.791	0.0279	0.741	0.687	0.795	28.3	≤ .001
	COM4	0.914	0.0203	0.857	0.818	0.896	45.1	≤ .001
	COM5	0.800	0.0271	0.750	0.697	0.804	29.5	≤ .001
PSD	SR	1.000	0.0000	0.970	0.953	0.986		
	C	1.217	0.0422	0.972	0.956	0.987	28.9	≤ .001
	SPB	0.992	0.0365	0.949	0.926	0.973	27.1	≤ .001
	CO	1.183	0.0379	0.967	0.950	0.984	31.2	≤ .001

The second-order confirmatory factor analysis (CFA) was conducted to evaluate the measurement model. Given that the PSDSPEL consists of 15 five-point Likert-type items, the second-order confirmatory factor analysis (CFA) was estimated using the Diagonally Weighted Least Squares (DWLS) estimator with robust standard errors. This estimation approach was used to account for the ordinal nature of the Likert-type indicators. As presented in Table 2, all observed indicators loaded significantly on their respective first-order constructs, with standardized factor loadings (β) ranging from 0.741 to 0.960. These values exceed the recommended threshold of 0.70, indicating that the indicators adequately represent their intended latent constructs (44). Furthermore, all factor loadings were statistically significant ($p < .001$), and the corresponding 95% confidence intervals did not include zero, providing further evidence of the stability and significance of the estimated parameters.

The relationships between the first-order constructs and the higher-order latent construct (PSDSPEL) were also strong and statistically significant. Specifically, the standardized loadings ranged from 0.949 to 0.972, demonstrating that SR, C, SPB, and CO are all substantial dimensions of the higher-order construct. According to (45), high and significant higher-order factor loadings provide strong empirical support for modeling a construct as a second-order latent variable. The consistently high loadings observed in this study suggest that the four dimensions share

considerable common variance and collectively capture the conceptual domain of PSDSPEL.

Overall, the second-order measurement model demonstrated satisfactory construct validity. The magnitude and significance of the standardized factor loadings indicate that both the first-order indicators and the higher-order factor structure are well supported by the data, providing a solid foundation for subsequent reliability, validity, and structural model assessments (44, 45).

3.5 Model Fit Assessment

The overall fit of the second-order measurement model was evaluated using multiple goodness-of-fit indices. The chi-square test was statistically significant, $\chi^2(86) = 255, p < .001$. Given the sensitivity of the chi-square statistic to sample size, the chi-square to degrees of freedom ratio was also considered. The χ^2/df ratio was 2.97 (255/86), which is below the criterion of 3 and indicates good overall model fit (46).

The comparative fit indices demonstrated excellent incremental fit, with CFI = 0.997, TLI = 0.996, IFI = 0.997, RNI = 0.995, NFI = 0.995, and RFI = 0.995, all exceeding the recommended threshold of 0.95 (44, 46). In addition, PNFI = 0.815 indicated a satisfactory balance between model fit and parsimony (47). The calculated values for the scale are given in Table 3.

Table 3. Goodness-of-fit statistics for the measurement model

	Model	Scaled
Comparative Fit Index (CFI)	0.997	0.973
Tucker-Lewis Index (TLI)	0.996	0.967
Bentler-Bonett Non-normed Fit Index (NNFI)	0.996	0.967
Relative Noncentrality Index (RNI)	0.997	0.973
Bentler-Bonett Normed Fit Index (NFI)	0.995	0.965

Bollen's Relative Fit Index (RFI)	0.995	0.965
Bollen's Incremental Fit Index (IFI)	0.997	0.973
Parsimony Normed Fit Index (PNFI)	0.815	

Regarding the absolute fit indices, SRMR = 0.049 indicated a satisfactory residual fit. The RMSEA was 0.094 (95% CI [0.080, 0.107]), which was above the conventional criterion of 0.08, and its upper confidence limit exceeded 0.10. This indicates that the model's fit is borderline, but this value is not necessarily rejectable. Furthermore, considering the χ^2/df ratio, the excellent incremental fit indices, and the satisfactory SRMR value together rather than RMSE alone, the measurement model was considered to demonstrate an acceptable overall fit.

Table 4. Reliability and convergent validity

Variable	α	Ordinal α	ω_1	ω_2	ω_3	AVE
SR	0.885	0.918	0.864	0.864	0.861	0.791
C	0.920	0.950	0.918	0.918	0.931	0.839
SPB	0.858	0.897	0.848	0.848	0.848	0.749
CO	0.895	0.919	0.893	0.893	0.900	0.709

Convergent validity was assessed using the Average Variance Extracted (AVE). The AVE values ranged from 0.709 to 0.839, exceeding the recommended minimum value of 0.50 (48). These findings indicate that each construct explained a substantial proportion of the variance of its indicators, supporting satisfactory convergent validity. Overall, the results demonstrate that the first-order

3.6 Reliability and Convergent Validity

Table 4 presents the reliability and convergent validity results for the first-order constructs. Cronbach's alpha coefficients ranged from 0.858 to 0.920, while ordinal alpha values varied between 0.897 and 0.950, indicating a high level of internal consistency. Similarly, McDonald's omega coefficients (ω_1 , ω_2 , and ω_3) ranged from 0.848 to 0.931, all exceeding the recommended threshold of 0.70, thereby providing further evidence of construct reliability (44, 47).

constructs possess adequate internal consistency and convergent validity.

Figure 1 illustrates the standardized second-order measurement model. All first-order constructs loaded strongly on the higher-order construct ($\beta=0.95-0.97$), while the standardized item loadings ranged from 0.75 to 0.96.

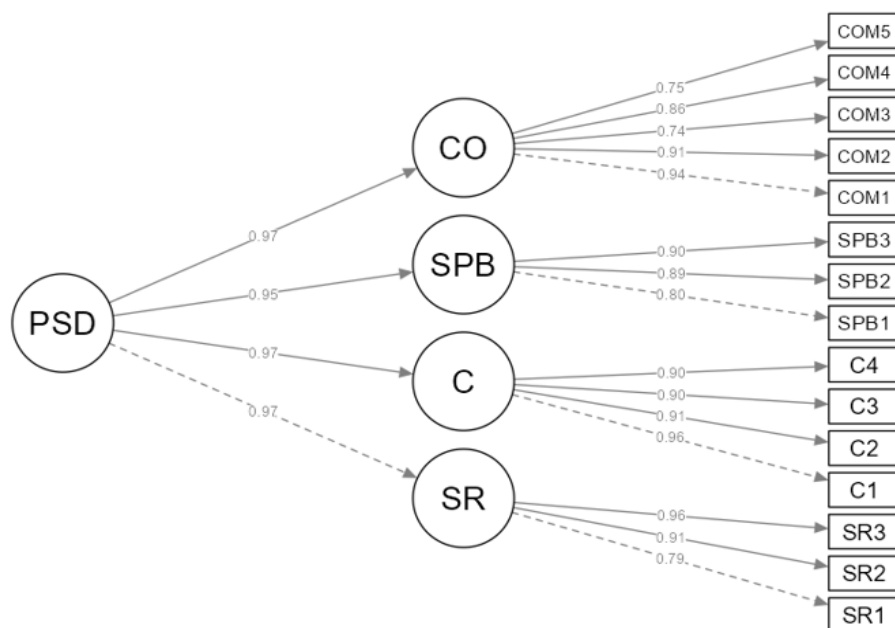


Figure 1. Second-order measurement model with standardized factor loadings

These results visually support the adequacy of the proposed measurement model and are consistent with the statistical findings reported in Table 2.

3.7 Hypothesis Testing

Four hypotheses were formulated for the scale, which consists of four sub-dimensions, and the analysis results obtained for these hypotheses are given below.

Table 5. Gender differences in PSDSPEL and its dimensions

		Statistic	df	p
SR	Student's t	0.3877	224	0.699
C	Student's t	1.5604	224	0.120
SPB	Student's t	0.0314	224	0.975
CO	Student's t	1.4215	224	0.157
PSDSPEL	Student's t	0.9141	224	0.362

Note. $H_0: \mu_1 = \mu_2$

The independent samples t-test revealed no statistically significant gender differences in the overall PSDSPEL score or any of its dimensions ($p \geq .05$). Accordingly, H1 was not supported. Accordingly, no difference was found in the average scores given by parents on the PSDSPEL scale based on their gender; in other words, the gender of the parents does not statistically significantly affect their perceptions of the PE course.

H2: There is a difference in the average scores participants gave on the PSDSPEL scale based on their educational levels.

Table 6. Differences in PSDSPEL and its dimensions according to educational level

Variable	F(df1, df2)	η^2	Highest average	Lowest average	Post Hoc Results (Scheffé)
SR	10.20*	.156	Undergraduate (M=4.42)	Graduate (M=3.13)	2-5 ($p=.014$), 3-5 ($p=.007$), 4-5 ($p\leq .001$)
C	6.83*	.110	Undergraduate (M=4.46)	Graduate (M=3.48)	4-5 ($p=.001$)
SPB	6.64*	.107	Undergraduate (M=4.29)	Graduate (M=3.33)	2-5 ($p=.023$) 3-4 ($p=.046$) 4-5 ($p=.002$)
CO	5.20*	.086	Undergraduate (M=4.13)	Graduate (M=3.29)	4-5 ($p=.013$)
PSDSPEL	8.16*	.129	Undergraduate (M=4.33)	Graduate (M=3.31)	2-5 ($p=.029$) 3-5 ($p=.048$) 4-5 ($p\leq .001$)

*: $p\leq 0.001$

The ANOVA result shows a significant difference according to education level for SR sub dimension ($F(4, 221)=10.20$, $p \leq .001$, $\eta^2=.156$). The Scheffé test indicates that the difference exists among the middle school-graduate, high school-graduate and undergraduate-graduate groups.

H1: There is a difference in the mean scores given by participants on the PSDSPEL scale according to their gender.

Parents' genders can influence their awareness on different issues. To examine whether the same is true for PE class, the first hypothesis was formulated as follows: "There is a difference in the mean scores given by participants on the PSDSPEL scale according to their gender."

Parents with higher educational attainment generally possess greater awareness of educational outcomes and are more likely to recognize the developmental benefits of school-based physical education. Previous studies have also reported that parental education is associated with more positive attitudes toward PE. Therefore, educational level may influence parents' perceptions of the social developmental contributions of PE.

According to descriptive statistics, undergraduate graduates have the highest average (M=4.42) and postgraduate graduates have the lowest average (M=3.13).

A significant difference was found in the C sub-dimension according to education level. ($F(4, 221)=6.83$, p

$\leq .001$, $\eta^2=.110$). Post hoc analysis shows a significant difference only between undergraduate and postgraduate groups. When the average scores are examined, the average of undergraduate graduates ($M=4.46$) is higher than that of the postgraduate group ($M=3.48$).

SPB scores also differ significantly according to education level ($F(4, 221)=6.64$, $p \leq .001$, $\eta^2=.107$). The Scheffé test shows a significant difference between the middle school-graduate, high school-undergraduate and undergraduate-graduate groups. The highest average is in the undergraduate group ($M=4.29$), and the lowest average is in the postgraduate group ($M=3.33$).

ANOVA was found to be significant for the CO sub-dimension ($F(4, 221)=5.20$, $p \leq .001$, $\eta^2=.086$). In this sub-dimension, the significant difference is only between the undergraduate and graduate groups. The average scores are again higher in the undergraduate group ($M=4.13$) and lower in the graduate group ($M=3.29$).

Finally, there is a significant difference across the scale according to education level ($F(4, 221)=8.16$, $p \leq .001$,

$\eta^2=.129$). The Scheffé test shows a significant difference between the middle school-graduate, high school-graduate, and undergraduate-graduate groups. Descriptive statistics reveal that the highest mean is among undergraduate graduates ($M=4.33$), and the lowest mean is among the postgraduate group ($M=3.31$). These findings indicate that participants' perceptions of PSDSPEL and its dimensions varied significantly across educational levels. Therefore, H2 was supported.

H3: There is a difference in the average scores given by participants on the PSDSPEL scale according to their income levels.

Parents' income levels can influence their children's participation in sports activities outside of school. Therefore, income level is an important variable in terms of influencing attitudes towards PE within schools. Parents with lower income levels may have higher expectations regarding PE at school.

Table 7. Differences in PSDSPEL and its dimensions according to income level

Variable	F(df1, df2)	p	η^2	Highest Average	Lowest Average	Post Hoc Results (Scheffé)
SR	3.90	.022	.034	3. Group ($M=4.36$)	1. Group ($M=3.84$)	1–3 ($p=.022$)
C	1.81	.166	.016	3. Group ($M=4.40$)	1. Group ($M=4.08$)	None
SPB	0.12	.887	.001	3. Group ($M=4.15$)	2. Group ($M=4.09$)	None
CO	0.005	.995	.000	1. Group ($M=3.99$)	3. Group ($M=3.97$)	None
PSDSPEL	0.82	.441	.007	3. Group ($M=4.22$)	1. Group ($M=4.01$)	None

The results of the one-way ANOVA based on income level showed that only SR scores differed significantly ($F(2, 223)=3.90$, $p=.022$, $\eta^2=.034$). The effect size is small. The Scheffé multiple comparison test showed that the significant difference was only between income groups 1 and 3. According to descriptive statistics, the highest mean was obtained in income group 3 ($M=4.36$), and the lowest mean was obtained in income group 1 ($M=3.84$).

In contrast, no statistically significant differences were found in C, SPB, CO, and Parent Perception scores based on

income level. Furthermore, the effect sizes for these variables were also small.

H4: There is a difference in the average scores participants gave on the PSDSPEL scale based on the number of children they have.

The number of children a parent has influences their perspectives and awareness in many ways. It is believed that families with more than one child may find that their experiences with children of different ages and developmental stages can significantly shape their views on child development and physical activity.

Table 8. Differences in PSDSPEL and its dimensions according to the number of children

One-Way ANOVA				
	F	df1	df2	p
SR	0.121	2	71.3	0.886
C	0.279	2	69.9	0.757
SPB	1.285	2	70.7	0.283
CO	0.277	2	72.0	0.759
PSDSPEL	0.242	2	70.6	0.786

Welch's one-way ANOVA was conducted to examine whether participants' perceptions of PSDSPEL differed according to the number of children. The results indicated no statistically significant differences in the overall PSDSPEL score ($F=0.242$, $p=.786$). Likewise, no significant differences were found for the SR ($F=0.121$, $p=.886$), C ($F=0.279$, $p=.757$), SPB ($F=1.285$, $p=.283$), or CO ($F=0.277$, $p=.759$) dimensions. These findings indicate that participants' perceptions of PSDSPEL and its dimensions did not differ according to the number of children. Therefore, H4 was not supported.

4. Discussion and Conclusion

This study evaluated parents' perceptions of PE classes in relation to their children's social development, considering various sociodemographic variables. The findings reveal that parents view physical education classes not only as a subject contributing to students' physical development, but also as an area that contributes to their social adaptation, responsibility, cooperation, interpersonal relationships, and social skills. These findings are consistent with the literature showing that PE classes support students not only in their physical development but also in educational, affective, and social aspects (23-25). Studies show that PE classes can support the development of skills such as responsibility, belonging, fair play, cooperation, rule-following, and peer communication. Review studies also indicate that physical education positively supports social behavior and skills as well as self-development, and that social development holds a significant place among the benefits of physical education and sports (14, 49). However, recent studies have shown that PE practices can support students' social and moral development, and that learning environments, the teacher's pedagogical approach, and the way the class is structured are also important in this development (11). In this regard, the present findings indicate that parents perceive PE classes as contributing not only to physical development but also to students' social development.

Although descriptive results indicated higher mean scores among female parents, this difference was not statistically significant. Therefore, it can be argued that parents' gender does not play a significant role in evaluating the multidimensional functions of PE classes. There are studies that support the findings mentioned; one study found no significant difference in parents' attitudes towards PE classes based on gender (24), and another similar study reported that no significant change was found in the attitudes of mothers

and fathers towards the class (38). In their study, Karaca and Filiz (42) stated that while parents' perceptions of social development towards PE classes were generally high, limited gender-based differences were observed in various sub-dimensions. Considering the findings of the research, it indicates that the effect of gender may vary not in the overall total score, but rather across specific subdimensions and depending on the context.

One of the notable findings of the study is that parent perception scores differed significantly based on education level. This difference appears to be particularly associated with the higher scores observed among parents with a bachelor's degree. The fact that parents with bachelor's degrees had higher perception scores regarding PE classes may suggest that these parents take into greater consideration the different contributions of the class to their children's development. However, this finding should be interpreted with caution because the postgraduate subgroup was relatively small, which may limit the stability and generalizability of this comparison. Indeed, studies examining parents' attitudes towards physical education and sports classes have reported that educational level may be related to parents' attitudes towards the class, and that differences can be found among different educational level groups (37-39). However, it should also be noted that how educational level shapes parents' perceptions of PE classes cannot be explained solely through educational level. Coulter, Mcgrane (32) revealed that parents generally have positive attitudes towards PE classes, and believe the subject is important for children's development; however, they may lack sufficient knowledge about the pedagogical aims and curriculum of the class. This suggests that parents' evaluations of PE classes may be influenced not only by their educational level but also by their knowledge and awareness of the class's aims and learning outcomes.

The findings highlight that a significant difference was found only in the SR dimension when comparing families according to their income levels. The fact that the highest average was observed in the highest income group ($M=4.36$) and the lowest average was observed in the lowest income group ($M=3.84$) suggests that income level may be related to parents' perceptions of the SR dimension. However, the small effect size obtained ($\eta^2=.034$) indicates that income level has a limited effect in explaining the difference in SR scores. On the other hand, the lack of significant differences in C, SPB, CO, and total parent perception scores based on income level indicates that parents' general perceptions of the contributions of PE classes to social development do not

differ significantly according to income level. This finding is consistent with the study by Özkan (38), which reported that parents' attitudes towards PE classes did not differ significantly according to income level. In addition, Gürbüz (50), Kaya (51) and Keskin (52) reported similar results, stating that there was no significant difference based on income level. In contrast, the findings of Güllü (53), Kızılkaya (54), Kotan (55), and Tural (56), which reported a difference between income level and attitudes or participation in physical education and sports, differ from the findings of the present study. When these different results are evaluated together, it becomes apparent that the role of income level on parents' perceptions of PE classes can vary between studies. In the presented study, while no significant difference was found in general parental perception according to income level, a slight difference emerged only in the SR dimension.

Based on the study findings, a comparison by number of children revealed no statistically significant differences in the total PSDSPEL score or in any of the SR, C, SPB, and CO dimensions. This finding indicates that parents' perceptions of the contributions of PE classes to students' social development do not differ according to the number of children. In the study conducted by Şentürk (57), while no significant differences were found in perceptual, functional, importance, and general attitude scores according to the number of children, it was determined that parents with 1-2 children had higher support sub-dimension scores than parents with 5 or more children. In this respect, the results of the current research show similarities to Şentürk's findings in the perceptual, functional, importance, and general attitude dimensions, but differ in terms of the support dimension. Güllü (58) reported that there was no significant difference between the participation of middle school students in PE classes and the number of siblings. This result is consistent with the finding in the current research that there was no significant difference according to the number of children.

The review of the literature also points out that parents' perceptions of PE classes are not always positive. Recent studies have shown that negative experiences parents had during their own school years in PE classes can negatively affect their children's attitudes towards these classes. Performance-oriented, marginalizing, and exclusionary classroom environments can negatively impact interest in and value of physical education classes. Therefore, to ensure the sustainability of the positive perceptions revealed in this study, it is crucial that PE classes are conducted with a

student-centered and inclusive approach that supports student autonomy (32, 59).

Finally, some limitations of this study should be considered. A total of 226 parents were included in the study, and the rate of female parents was higher than that of males. In addition, the low proportion of participants with postgraduate education requires caution in evaluations regarding the education variable. Since the data were collected on a self-report basis, the data does not reflect the directly observed behavior of the students. For this reason, future studies based on students, teachers and observations will contribute to the literature.

The research results show that parents generally have a positive perception of PE classes in terms of their children's social development. The study findings revealed that in Bartın province, parents consider PE classes an important educational environment not only for their children's physical development but also for the development of their social skills, including adaptation to society, cooperation, responsibility, interpersonal relationships, and social abilities. The fact that parental perceptions do not differ significantly based on number of children, income level, and gender supports the idea that the contributions of this course to social development are similar across various family profiles. Furthermore, the finding of significant differences based on parents' educational levels suggests that educational level may be associated with differences in parents' perceptions of the multifaceted learning outcomes of the course. However, this finding should be interpreted cautiously given the relatively small postgraduate subgroup.

In conclusion, the present findings indicate that parents perceive PE classes as having an important role in relation to their children's social development. These perceptions highlight the importance of considering social learning objectives within PE curricula and pedagogical practices. However, because the present study is based on parental perceptions, these findings should not be interpreted as evidence of a direct causal effect of PE classes on students' social development. For this reason, the course should be considered not just as a physically active environment, but as a course designed to develop students' multifaceted skills, including social life, and should be supported by inclusive methods specific to PE classes, such as collaborative learning, the Sports Education Model, and the Personal and Social Responsibility Model. When the second phase of the study, the research in Baku, Azerbaijan, is completed, the results will be compared with those of Bartın province.

Based on the study findings, it can be suggested that the objectives of PE classes should be addressed in a more planned and clear manner in terms of students' social development. When preparing PE class plans, it would be beneficial to focus more on social objectives such as fair play, rule-following, taking responsibility, empathy, respect, and cooperation, in addition to physical fitness and motor skills. Therefore, the planned implementation of literature-proven models such as collaborative learning, sports education, and personal and social responsibility in classroom settings may be beneficial. In addition, the study findings, particularly the differences in parental education levels, suggest that some parent groups may need more support regarding the learning outcomes and objectives of physical education and sports lessons.

When discussing the interaction between family and school, it should be noted that physical education classes offer significant benefits not only as a setting for physical activity but also in terms of peer relationships, a sense of belonging, responsibility, and social development. Teachers should frequently incorporate student-centered and inclusive pedagogical approaches into this process, as this will help create environments where students are socially active and participate more effectively. For future studies, researchers are advised to conduct research with larger samples from different regions, support quantitative data with qualitative interviews, and evaluate parental attitudes using a wider range of variables. Additionally, longitudinal studies could more effectively examine how parents' perceptions of PE classes change over time and their relationship to students' social behavior.

Authors' Contributions

S.E.M. designed and collected data, S.E.M. and P.C.D. analyzed the data and interpreted of results, S.E.M., P.C.D., and F.J. reviewed literature, P.C.D., and F.J translate the manuscript, S.E.M. took the lead in writing the manuscript with input from all authors. All authors discussed the results and commented on the manuscript.

Declaration

During the preparation of this manuscript, ChatGPT (OpenAI) was used solely for English-language editing, grammar correction, and improvement of readability. It was not used for study design, data generation or collection, statistical analysis, or scientific interpretation of the findings. All AI-assisted text was critically reviewed and

approved by the authors. The authors take full responsibility for the accuracy, originality, and integrity of the manuscript.

Transparency Statement

The data analyzed in the present study are available from the corresponding author upon reasonable request, subject to data-protection and ethical regulations.

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

This study was conducted with the approval of the Bartın University Social and Human Ethics Committee on 01 July 2026 with the Protocol Number 2025-SBB-1224.

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