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Penulis : Yudanto, Wawan Sundawan Suherman, Sigit Nugroho, Guntur.

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# The Effect of Games Experience Learning Models and Fundamental Movement Skills On Psychosocial Skills On Youth Soccer Player

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## Abstract:

The optimal achievement that a team or athlete can achieve at a certain time sports is influenced by many factors including technical, physical, tactical, and mental skills of the players. In addition, psychosocial skills are the important factors in supporting the success of a team or athlete. This study was experimental research to determine: 1) the difference in the effect between the GEL training model and the technical training model on improving psychosocial skills, 2) the difference in the effect between youth soccer player with high and low fundamental movement skills on psychosocial skills, and 3) the interaction between the GEL training model and technical training with high and low fundamental movement skills on psychosocial skills of youth soccer player (N=48, age 9-10 years). The instruments used for this study were: 1) The Test of Gross Motor Skills TGMD-2, and 2) The Psychosocial Skill Scale (PSS) developed by Soni Nopembri. Analysis of the data used the analysis technique of variance (ANAVA) design and further testing using the Tukey test. The results showed that: 1) there is a significant difference in the effect between the GEL training model and the technical training model on psychosocial skills. The GEL training model group reached higher improvement than the technical training model group, 2) there is a significant difference in the effect between youth football player with high and low fundamental movement skills on psychosocial skills. Youth soccer player with high fundamental movement skills are better than youth soccer player with low fundamental movement skills, 3) there is a significant interaction between the GEL training model and technical training with high and low fundamental movement skills on psychosocial skills.

**Key Words:** *game experience learning, fundamental movement skill, psychosocial, youth soccer player*

## Introduction

The optimal achievement that a team or athlete can achieve at a certain time sports is influenced by many factors including technical, physical, tactical, and mental skills of the players (Antoni et al., 2021; T. Bompa & Carrera, 2015; T. O. Bompa & Buzzichelli, 2019). Coaching and development of skills and character from an early age and at a young age are more effective than a player who is already in the adult phase. The age of 7-12 years is a period of developing basic movement and playing skills which include technical, physical, and tactical development. The training model applied must be fun so that a love for training and football is embedded in every individual. The skill training process continues to be carried out by not leaving the development of attitudes, behavior, the character in the talent development phase. Exercises to improve skills in the sport of football, especially at the age of 7-12 years, as described above, must be pursued in a pleasant, effective, efficient and able to develop all components of playing skills: technical, physical and tactical skills and at the same time character development is a challenges and innovations to be developed (Abarghoueinejad et al., 2021; Huijgen et al., 2013; Machado et al., 2021; Pena-González et al., 2019).

Fundamental movement skills (FMS) or basic movement skills are the basis for learning and developing various technical skills in sports and physical activities for life. Thus, if children's basic movement competencies are not developed, they will not succeed in using various sports and game skills in their childhood and adolescence (Bakhtiar, 2015). FMS are essential for achieving proficiency in various sports, games, and gymnastics. Besides that, it is also a basis for efficient and effective movements for children to explore the environment and gain knowledge about the world around them (C. H. S. Chan et al., 2019a; Foulkes et al., 2015; Gimenez et al., 2012; Liang et al., 2015).

The process of coaching and training in football for children aged 7-12 years, in addition to developing skills/techniques, also develops psychological aspects (Huijgen et al., 2013; Piñeiro-Cossio et al., 2021). Psychosocial skills are one aspect that needs to be developed through sports activities. Psychosocial is a condition that occurs in individuals includes psychological and social aspects or vice versa. Psychosocial refers to dynamic relationships or psychological or social factors, which interact and influence each other (Eime et al., 2013; Ngo et al., 2011). The term psychosocial means alluding to social relations that include psychological factors. The term psychosocial refers to the dynamics of the relationship between the psychological and social dimensions of a person, where each affects each other. The psychological dimension includes internal, emotional, and thought processes, feelings, and reactions. The social dimension includes relationships, family and community networks, social values, and cultural practices. The term psychosocial reflects something that everyone shares. As humans, we all have feelings and thoughts that influence how we react to life situations and how we relate to other people. Through moving, playing, and sports in

addition to developing physical, but also developing psychosocial (Sierra-Ríos et al., 2020).

The process of coaching and training football for children aged 7-12 requires an appropriate training model according to the characteristics of the child. Games Experience Learning (GEL) based training model is a learning model that applies the theory of experiential learning where learning or training contains four stages: experience in the form of playing, reflection, understanding the concept, and implementation (Bober, 2010; K. Chan et al., 2021; Perttula et al., 2017; Zhang et al., 2021). Based on various considerations behind this problem, this research focused on the Games Experience Learning (GEL)-based training model and the technique-based training model. In addition, this study was also conducted on subjects who have high and low FMS. This was done to determine the differences in psychosocial skills of youth soccer player aged 9-10 years by using the two training models in the condition of subjects who had different FMS.

## Material & methods

Soccer school students aged 9-10 years in Klaten Regency with a total of 48 youth soccer player who had no health problems or significant motor disorders and agreed to participate in the research, classified based on their FMS by the TGMD-2 (Ulrich, 2000). Half of youth soccer player who have high FMS (B1) trained with GEL approach training program (A1), and the other half trained with a technical approach training program (A2). The same thing is also done for youth soccer player with low FMS (B2). This research involved one manipulated independent variable, one controlled independent variable (attribute) and one dependent variable. The dependent variable is psychosocial skills, the independent variable being manipulated was the training method which consists of: (1) the GEL approach training model and (2) the technical approach training model. The controlled independent variables (attributes) consist of: (1) high FMS and (2) low FMS. Subjects were trained three session on each week for 8 weeks (total of 24 sessions).

Fig. 1. Research Subjects Model

Training Model (A)		FMS (B)	
		The GEL Approach Training Model (A1)	The Technical Approach Training Model (A2)
High (B1)	A1B1	A2B1	
Low (B2)	A1B2	A2B2	

The instruments used for this study were: 1) TGMD-2 to observe FMS, which six locomotor skills are assessed: horizontal jump, run, leap, hop, slide, and gallop; and six object handling abilities are assessed: overhand throw, kick, underarm roll, strike, catch, and dribble. The TGMD-2 is a standardized test that has been validated to measure the qualitative elements of FMS in children aged three to ten. and 2) the Psychosocial Skill Scale (PSS) developed by Soni Nopembri (Nopembri & Sugiyama, 2019) with four subscale structures: stress coping, communication, social awareness, and problem-solving skills. The PSS was validated and reliable to measure psychosocial skills on children aged 7-15 years (Nopembri & Sugiyama, 2019). Data of psychosocial and FMS analyzed by analysis of variance (ANAVA) and followed by further testing using Tukey's test. Before the data were analyzed, the requirements test was first carried out, the normality test and homogeneity test with the Shapiro-Wilk and Levene test with all tests using a significance level ( $\alpha$ ) of 0.05.

## Results

Research data on pretest and posttest of psychosocial skills are shown in table 1.

Table 1. Pretest and Posttest Data on Psychosocial Skills  
High FMS

No	GEL Approach Training (A1B1)			Technical Approach Training (A2B1)		
	Pretest	Posttest	Difference	Pretest	Posttest	Difference
1	99	113	14	108	111	3
2	91	101	10	90	94	4
3	89	103	14	90	97	7
4	90	102	12	111	112	1
5	88	104	16	89	96	7
6	89	99	10	82	86	4
7	92	102	10	107	109	2
8	82	99	17	97	103	6
9	113	115	2	91	97	6
10	92	100	8	88	92	4

11	99	106	7	89	96	7
12	95	106	11	95	99	4
Low FMS						
No	GEL Approach Training (A1B2)			Technical Approach Training (A2B2)		
	Pretest	Posttest	Difference	Pretest	Posttest	Difference
1	81	86	5	80	91	11
2	82	85	3	82	91	9
3	117	118	1	106	112	6
4	79	83	4	83	91	8
5	114	115	1	91	100	9
6	109	113	4	100	103	3
7	81	85	4	99	102	3
8	80	84	4	90	94	4
9	77	82	5	81	92	11
10	84	88	4	81	90	9
11	88	95	7	92	97	5
12	83	92	9	95	98	3

The descriptive statistics of the pretest and posttest of psychosocial skills are presented in Table 2.

Table 2. Descriptive Statistics of Pretest and Posttest of Psychosocial Skills

Group Data	Minimum	Maximum	Mean	Std. Deviation
Pretest A1B1	82,00	113,00	93,25	7,79
Posttest A1B1	99,00	115,00	104,17	5,17
Pretest A2B1	82,00	111,00	94,75	9,19
Posttest A2B1	86,00	112,00	99,33	7,96
Pretest A1B2	77,00	117,00	89,58	14,68
Posttest A1B2	82,00	118,00	98,83	13,52
Pretest A2B2	80,00	106,00	90,00	8,75

The normality test used the Shapiro-Wilk method carried out in each group were analyzed using the SPSS version 20.0 software program for windows with a significance level of 5% or 0.05. All pretest and posttest data on psychosocial skills are normally distributed with a significance value of  $p > 0.05$ . The Levene homogeneity test with significance value of  $\geq 0.05$  was intended to test the similarity of variance between the pretest and posttest and the data group were homogeneous (table 4).

Table 3. Normality Test Result

Group Data	Psychosocial Skill	Category
	<i>sig</i>	
Pretest A1B1	0,070	Normal
Posttest A1B1	0,141	Normal
Pretest A2B1	0,077	Normal
Posttest A2B1	0,385	Normal
Pretest A1B2	0,102	Normal
Posttest A1B2	0,105	Normal
Pretest A2B2	0,222	Normal
Posttest A2B2	0,089	Normal

Table 4. Homogeneity Test Result

Data	F	df1	df2	Sig.
Psychosocial Skill	2,506	3	44	0,071

The hypothesis of a significant difference between the GEL training model and the technical training model on psychosocial skills analyzed by ANAVA analysis, the results are in table 5. The F value is 4.919 and the significance value of  $p$  is  $0.032 < 0.05$ ,  $H_0$  is rejected. Based on the results of the analysis, it turns out that the GEL training model group with an average improvement of 15.17, higher than the technical training model with an average improvement

of 11.33.

Table 5. Result of ANAVA Analysis Between GEL Training Model and Technical Training Model on Psychosocial Skills

<i>Source</i>	<i>Type III Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig</i>
Training Model	44.083	1	44.083	4.919	0.032

The hypothesis of a significant difference in the effect between youth soccer player with high and low FMS on psychosocial skills analyzed by ANAVA analysis, the results are in table 6. The F value is 6.779 and the significance value of p is 0.013 < 0.05,  $H_0$  is rejected. Youth soccer player with high FMS did better with an average improvement of 7.75 than those with low FMS with an average improvement of 5.50. It stated that there is a significant difference in the effect between youth soccer player with high and low FMS on psychosocial skills.

Table 6. Result of ANAVA Analysis of Differences Between High and Low FMS on Psychosocial Skills

<i>Source</i>	<i>Type III Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig</i>
Fundamental movement skill	60.750	1	60.750	6.779	0.013

The hypothesis of a significant interaction between the GEL training model and technical training model with high and low FMS on psychosocial skills improvement analyzed by ANAVA analysis, the results are in table 7. The F value is 26.119 and the significance value of p is 0.000 < 0.05,  $H_0$  is rejected. It stated that there is a significant interaction between the GEL training model and technical training model with high and low FMS on psychosocial skills improvement.

Table 7. Result of ANAVA Analysis of Interaction Between The GEL Training Model and Technical Training Model with High and Low FMS On Psychosocial Skills

<i>Source</i>	<i>Type III Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig</i>
Training Model x FMS	234.083	1	234.083	26.119	0.000

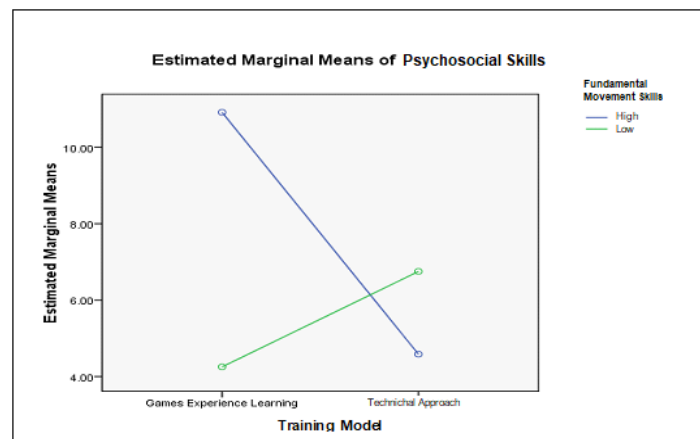


Fig 2. Result of Interaction Test between The GEL Training Model and Technical Training Model with High and Low FMS on Psychosocial Skills

Tukey test was implemented to further testing of interaction test between the GEL training model and technical training model with high and low FMS on psychosocial skills. Based on the result of Tukey test (table 8), it is showed that the pairs that have interactions are significantly different are: (1) A1B1-A2B1, (2) A1B1-A1B2, (3) A1B1-A2B2, while the other pairs that do not have a different effect are: (1) A2B1-A1B2, (2) A2B1-A2B2, and (3) A1B2-A2B2.

Table 8. Result of Tukey Test

<i>Group</i>	<i>Interaction</i>	<i>Mean Difference</i>	<i>Std. Error</i>	<i>Sig.</i>
A1B1	A2B1	6.0000*	1.24367	.000
	A1B2	6.3333*	1.24367	.000

	A2B2	3.8333*	1.24367	.018
A2B1	A1B1	-6.0000*	1.24367	.000
	A1B2	.3333	1.24367	.993
	A2B2	-2.1667	1.24367	.315
A1B2	A1B1	-6.3333*	1.24367	.000
	A2B1	-.3333	1.24367	.993
	A2B2	-2.5000	1.24367	.200
A2B2	A1B1	-3.8333*	1.24367	.018
	A2B1	2.1667	1.24367	.315
	A1B2	2.5000	1.24367	.200

## Discussion

### The difference in the effect between the GEL training model and the technical training model on psychosocial skills

Participation in team sports was associated with improved social and psychological health regardless of the type of team sport, age, somatic, or mental health problems. The findings suggest that team sports can be more efficient at promoting health and ensuring exercise participation and continuation than individual sports. (Andersen et al., 2019; Dishon, 2017; Faradiba & Royanto, 2018; Gaines, 2012a, 2012b; Kilic & Ince, 2021; SANLAV, 2021; Stadler Blank et al., 2018). The GEL training model is an training model contained of group by following several stages, including: 1) warm-up which contains warm-up activities (5-10 minutes), 2) core exercise 1, which contains games for the development of one character value and the games/play activities carried out are attempted always relevant to one of the skills (20-30 minutes), 3) core exercise 2, which contains games for developing technical skills (20-30 minutes), 4) core exercise 3, which contains playing 7 vs 7 according to federation regulations (PSSI) (20-30 minutes), and 5) cooling down containing cooling down activity (5-10 minutes) (Sulistiyono, Andry, et al., 2021; Sulistiyono, Sugiyanto, et al., 2021). Based on hypothesis testing, it is known that there is a significant difference between the GEL training model and the technical training model on psychosocial skills. Training with a technical approach actually also provides an increase in psychosocial skills, but based on the results of the analysis, the GEL training model group reached higher improvement on psychosocial skill than the technical training model group. GEL based training model provides youth soccer players to learn academic and practice that can help youth soccer players gain new experiences (Perttula et al., 2017). Play model provide youth soccer players to be fun and improve learning outcomes (Fuster-Guilló et al., 2019). Experience learning is declared effective for leadership development, especially in situations where youth soccer players work in teams, (Gil-Arias et al., 2017). Experience learning has been used so that youth soccer player are able to make decisions (Barquero-Ruiz et al., 2020; Robles et al., 2020; Sierra-Ríos et al., 2020).

### The difference in the effect between youth soccer player with high and low FMS on psychosocial skills

According to the results of the analysis (table 6), there is a significant difference in the effect between youth soccer player with high and low FMS on psychosocial skills. Youth soccer player with high FMS do better than those with low FMS. Many previous studies which state that a number of studies examine the impact of sports classes and physical education on moral development. Physical activity plays an important role in youth soccer player' psychological well-being and their perception of health and can serve as a safeguard against overemphasis on extrinsic values (Piko & Keresztes, 2006). Youth soccer player who practice and are passionate about sports related to high movement skills have more negative attitudes towards bullying, compared to others, sport reduces general psychological tension, disciplines, teaches fair play, regulates life and fosters respect for others. Practicing sports is related to a concrete vision of life, through the nature of this activity and through attention/focus on oneself that it means regular physical activity as a source of personal development and value orientation in relation to with health attitudes (Faradiba & Royanto, 2018; Gaines, 2012a; Jones & Lavalley, 2009; Marini et al., 2021; Mihai, 2011; Morgan et al., 2013; Sulistiyono, Andry, et al., 2021; Tukaiev et al., 2019). Movement, games and sports are part of human life, not only encouraging those to improve physical well-being, but also psychosocial and social children (Ley & Barrio, 2010). Among the psychosocial benefits, sports activities can help develop a sense of competence, self-determination, autonomy and internal locus of control.

### Interaction between training models (GEL and technical training) with FMS (high and low) on psychosocial skills

Based on the results that have been stated in the results of this study, there is a significant interaction between the GEL training model and technical training with high and low FMS on psychosocial skills. The results showed that the GEL training model group was a more effective method for youth soccer player with high FMS and the technique training model group was more effective for youth soccer player with low FMS. From the results of the form of interaction, it appears that the main factors of the study show a significant interaction. In the results of this study, the

interaction means that in each cell or group there is a difference in the effect of each paired group. Pairs of couples who have interactions or partners that are significantly different are:

1. The group of youth soccer player who were trained to use the GEL training model with high FMS was better than youth soccer player who were trained to use the technical training model with high FMS to psychosocial skills, with a sig value of  $0.000 < 0.05$ .
2. The group of youth soccer player who were trained using the GEL training model with high FMS was better than youth soccer player who were trained using the GEL training model with low FMS on psychosocial skills, with a sig value of  $0.000 < 0.05$ .
3. The group of youth soccer player who were trained to use the GEL training model with high FMS was better than youth soccer player who were trained to use the technical training model with low FMS to psychosocial skills, with a sig value of  $0.018 < 0.05$ .

This is in line with several studies that have been carried out, that FMS are related to the development of psychological aspects and social interactions, especially in children. Children with high FMS tend to be able to process experiences into lessons that can be used to make subsequent decisions that are able to support their psychology and social conditions. (C. H. S. Chan et al., 2019b; Eisenmann et al., 2020; Garcia et al., 2002).

## Conclusions

Based on the results of the research and the results of data analysis that has been carried out, the following conclusions were obtained:

1. There is a significant difference in the effect between the GEL training model and the technical training model on psychosocial skills. The GEL training model group was better than the technical training model.
2. There is a significant difference in the effect between youth soccer player with high and low FMS on psychosocial skills. Youth soccer player with high FMS are better than youth soccer player with low FMS.
3. There is a significant interaction between the GEL training model and technical training with high and low FMS on psychosocial skills.

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YUDANTO<sup>1\*</sup>, WAWAN SUNDAWAN SUHERMAN<sup>2</sup>, SIGIT NUGROHO<sup>2</sup>, GUNTUR<sup>1</sup>

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## Journal of Physical Education and Sports

**Title: The Effect of Games Experience Learning Models and Fundamental Movement Skills on Psychosocial Skills on Youth Soccer Player**

Comments	Answer and Action
<p><b>Introduction</b></p> <p>The introduction and the scientific basis must present the arguments of the problem, chronologically, on the cause-effect path as well as a clear perspective of action.</p> <p>LITERATURE REVIEW vs STUDY BACKGROUND What we should know about the differences between them so the order of approach is:</p> <p>1 STUDY BACKGROUND, which is the part of understanding the explanation of notions and theme. It presents the context, offers the historical, chronological perspective, emphasizes the importance of the study</p> <p>2.LITERATURE REVIEW - provides the overview, comprehensive of the existing literature on the given topic. Critically evaluates the evolution of research and the gaps / limitations but also the opportunities for intervention in order to progress.</p> <p><b>Your INTRODUCTION is too short - does not substantiate the theme, does not clarify fully the current level of knowledge - please review - please add significant details</b></p>	<p>We have improved the introduction section by adding the scientific basis and argument of the problem. In the study background, we have emphasized the importance of the study. The existing literature reinforces the research gaps and limitations that existed at the time of the research and how the solution is offered through this research.</p>
<p><b>Conclusion</b> - The most important function of the conclusion part is to render the main argument and FINAL, which must remain in the mind of the reader. The conclusions necessarily emphasize the strengths and main arguments, reiterating the most important evidence supporting these arguments.</p> <p>The conclusions section provides the place to persuasively and succinctly reaffirm your problem. Take the reader as a partner in revealing and supporting research findings</p> <p>- please review your conclusion part. It is too brief and does not fully synthesize the results, utility and theoretical and practical contribution of the paper</p>	<p>We have improved the conclusion section to render our main argument about this study. the advantages and evidence of this study and the contribution of this study are also written in the conclusion.</p>
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# The Effect of Game Experience Learning Model and Fundamental Movement Skills on the Psychosocial Skills of Youth Soccer Players

YUDANTO<sup>1\*</sup>, WAWAN SUNDAWAN SUHERMAN<sup>2</sup>, SIGIT NUGROHO<sup>2</sup>, GUNTUR<sup>1</sup>

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## Abstract:

The optimal achievement that a team or athlete can achieve at a particular time in sports is influenced by many factors, including the technical, physical, tactical, and mental skills of the players. In addition, psychosocial skills are an important factor in supporting the success of a team or athlete. This study was based on experimental research to determine: 1) the difference in the effects between GEL training model and technical training model on improving psychosocial skills, 2) the difference in the effects between youth soccer players with high and low fundamental movement skills on psychosocial skills, and 3) the effect of interactions between the GEL and technical training models and the high and low fundamental movement skills on the psychosocial skills of youth soccer player (N=48, age 9-10 years). The instruments used for this study were: 1) The Test of Gross Motor Skills (TGMD-2), and 2) The Psychosocial Skills Scale (PSS) developed by Soni Nopembri. Analysis of the data used the analysis technique of variance (ANOVA) design and further testing using the Tukey test. The results show that there is a significant difference in the effects between the GEL training model and the technical training model on psychosocial skills. The GEL training model is better to improve psychosocial skills than the technical training model. Moreover, there is a significant difference in the effects between youth soccer players with high and low FMS on psychosocial skills. Youth soccer players with high FMS are better than youth soccer player with low FMS in improving their psychosocial skills. Lastly, the study finds that there is a significant effect on psychosocial skills as a result of the interactions between the GEL and technical training models and the high and low FMS.

**Key Words:** *game experience learning, fundamental movement skills, psychosocial skills, youth soccer players*

## Introduction

The optimal achievement that a team or athlete can achieve at a certain time in sports is influenced by many factors including the technical, physical, tactical, and mental skills of the players (Antoni et al., 2021; T. Bompá & Carrera, 2015; T. O. Bompá & Buzzichelli, 2019). The age of 7-12 years for youth soccer players is a period of developing basic movements and playing skills which include technical, physical, and tactical development. The training model applied must be enjoyable so that a love for training and football is embedded in every individual. The skill training process continues to be carried out by incorporating the development of attitudes, behaviors, and characters in the talent development phase. Exercises to improve skills in the sport of football, especially at the age of 7-12 years, as described above, must be pursued in a pleasant, effective, efficient way which manages to develop all components of playing skills: technical, physical and tactical skills. At the same time, character development is a challenge, and innovations must be developed (Abarghouejad et al., 2021; Machado et al., 2021; Pena-González et al., 2019).

Fundamental movement skills (FMS) or basic movement skills are the basis for learning and developing. Often the training process carried out in football only targets physical and technical skills. On the other hand, youth soccer players also need to develop psychosocial skills for their development as adults. Otherwise, they will not succeed in using various sports and game skills in their childhood and adolescence. FMS are essential for achieving proficiency in various sports, games, and gymnastics. It is also a basis for efficient and effective movements for children to explore the environment and gain knowledge about the world around them (C. H. S. Chan et al., 2019a; Foulkes et al., 2015; Gimenez et al., 2012; Liang et al., 2015).

The process of coaching and training in football for children aged 7-12 years, in addition to developing skills/techniques, also involves the development of psychological and social aspects (Piñeiro-Cossio et al., 2021). The term 'psychosocial' refers to the dynamics of the relationship between the psychological and social dimensions of a person, in which they affect each other. The psychological dimension includes internal, emotional, and thought processes, feelings, and reactions. The social dimension includes relationships, family and community networks, social values, and cultural practices. The term 'psychosocial' also reflects to something that everyone shares. As humans, we all have feelings and thoughts that influence how we react to life situations and how we relate to other people through moving, playing, and sports to develop not only the physical aspect, but also the psychosocial ones (González-Serrano et al., 2020; Santina et al., 2017; Sierra-Ríos et al., 2020).

Previous research has shown that the personal skills and social skills of youth soccer players are still not good

enough (Mossman & Cronin, 2019; Musculus et al., 2016; Thomas et al., 2021). Some of the training processes carried out in football only target physical and technical skills. Meanwhile, youth soccer players need to develop psychosocial skills for their development as adults. On the other hand, the process of coaching and training football for children aged 7-12 requires an appropriate training model according to the characteristics of the child. Games Experience Learning or GEL-based training model is a learning model that applies the theory of experiential learning where learning or training contains four stages, namely experience in the form of playing, reflection, understanding the concept, and implementation (Bober, 2010; K. Chan et al., 2021; Perttula et al., 2017; Zhang et al., 2021). Based on various considerations behind this problem, this research focused on the effects of GEL-based training model and the technique-based training model on psychosocial skills. In addition, this study was also conducted on subjects with high and low FMS. This was done to determine the differences in psychosocial skills of youth soccer players aged 9-10 years by using the two training models among subjects with different FMS. This research determines: 1) the difference in the effects between the GEL training model and the technical training model on improving psychosocial skills, 2) the difference in the effects between youth soccer players with high and low fundamental movement skills on psychosocial skills, and 3) the effect of interactions between the GEL and technical training models and the high and low fundamental movement skills on the psychosocial skills of youth soccer players.

### Material & methods

Soccer school students aged 9-10 years in Klaten Regency with a total of 48 youth soccer players who had no health problems or significant motor disorders agreed to participate in the research and were classified based on their FMS using the TGMD-2 (Ulrich, 2000). Half of youth soccer players with high FMS (B1) trained with GEL approach training program (A1), and the other half trained with a technical approach training program (A2). The same treatment was also done for youth soccer players with low FMS (B2). This research involved one manipulated independent variable, one controlled independent variable (attribute) and one dependent variable. The dependent variable was psychosocial skills, whereas the independent variable manipulated was the training method consisting of: (1) the GEL approach training model and (2) the technical approach training model. The controlled independent variables (attributes) consisted of: (1) high FMS and (2) low FMS. Subjects were trained three sessions each week for 8 weeks (a total of 24 sessions).

Training Model (A)		The GEL Approach Training Model (A1)	The Technical Approach Training Model (A2)
FMS (B)			
High (B1)		A1B1	A2B1
Low (B2)		A1B2	A2B2

Fig. 1. Research Subjects Model

The instruments used for this study were TGMD-2 and the Psychosocial Skill Scale (PSS). The TGMD-2 is a standardized test that has been validated to measure the qualitative elements of FMS in children aged three to ten. It was used to observe FMS, in which six locomotor skills (horizontal jump, run, leap, hop, slide, and gallop) and six object handling abilities (overhand throw, kick, underarm roll, strike, catch, and dribble) were assessed. The next instrument was the Psychosocial Skill Scale (PSS) developed by Soni Nopembri (Nopembri & Sugiyama, 2019) with four subscale structures, including stress coping, communication, social awareness, and problem-solving skills. The PSS has been validated and deemed reliable to measure the psychosocial skills on children aged 7-15 years (Nopembri & Sugiyama, 2019). Data of psychosocial skills and FMS were then analyzed using the analysis of variance (ANOVA) followed by further testing using Tukey test. Before the data were analyzed, requirement tests were first carried out, namely the normality test using the Shapirow-Wilk, and Levene test for the homogeneity test with a significance level ( $\alpha$ ) of 0.05 for all tests.

### Results

Table 1. The Descriptive Results of Pre- and Post-tests of Psychosocial Skills

Group	Test	Minimum	Maximum	Mean	Std. Deviation
GEL with High FMS (A1B1)	Pre	82,00	113,00	93,25	7,79
	Post	99,00	115,00	104,17	5,17
Technical with High FMS (A2B1)	Pre	82,00	111,00	94,75	9,19
	Post	86,00	112,00	99,33	7,96
GEL with Low FMS (A1B2)	Pre	77,00	117,00	89,58	14,68
	Post	82,00	118,00	98,83	13,52

Technical with Low FMS (A2B2)	Pre	80,00	106,00	90,00	8,75
	Post	90,00	112,00	96,75	6,65

Research data on pretests and posttests of psychosocial skills are shown descriptively in Table 1. All pretest and posttest data on psychosocial skills are normally distributed with a significance value of  $p > 0.05$  according to the normality test used, namely the Shapiro-Wilk method using the SPSS 20.0 software program for Windows with a significance level of 5% or 0.05. The Levene homogeneity test with significance value of  $\geq 0.05$  was intended to test the similarity of variance between the pretest and posttest. The result showed that the data groups were homogeneous ( $sig = 0.071$ ).

The ANOVA results showed that there is a significant difference between the effects of GEL and technical training model on psychosocial skills with F value of 4.919 and the significance value ( $p$ ) of  $0.032 < 0.05$ . The results of the analysis also show that the GEL training group has a higher average improvement (15.17) than the technical training group with an average improvement of 11.33. There is a significant difference in the effects between youth soccer players with high and low FMS on psychosocial skills with F value of 6.779 and significance value ( $p$ ) of  $0.013 < 0.05$ . Youth soccer players with high FMS did better with an average improvement of 7.75 than those with low FMS with an average improvement of 5.50. There is a significant effect of the interaction between the GEL and technical training models and the high and low FMS on psychosocial skills improvement with F value of 26.119 and the significance value of  $p$  of  $0.000 < 0.05$ .

Table 2. Result of Tukey Test

Group	Interaction	Mean Difference	Std. Error	Sig.
A1B1	A2B1	6.0000*	1.24367	.000
	A1B2	6.3333*	1.24367	.000
	A2B2	3.8333*	1.24367	.018
A2B1	A1B1	-6.0000*	1.24367	.000
	A1B2	.3333	1.24367	.993
	A2B2	-2.1667	1.24367	.315
A1B2	A1B1	-6.3333*	1.24367	.000
	A2B1	-.3333	1.24367	.993
	A2B2	-2.5000	1.24367	.200
A2B2	A1B1	-3.8333*	1.24367	.018
	A2B1	2.1667	1.24367	.315
	A1B2	2.5000	1.24367	.200

Tukey test (Table 2) was implemented for further testing of the effect of interactions between the GEL and technical training models and the high and low FMS on psychosocial skills. Based on the result of the Tukey test (Table 2), the pairs with significantly different interactions are: (1) A1B1-A2B1, (2) A1B1-A1B2, (3) A1B1-A2B2, while pairs with no significantly different effects are: (1) A2B1-A1B2, (2) A2B1-A2B2, and (3) A1B2-A2B2.

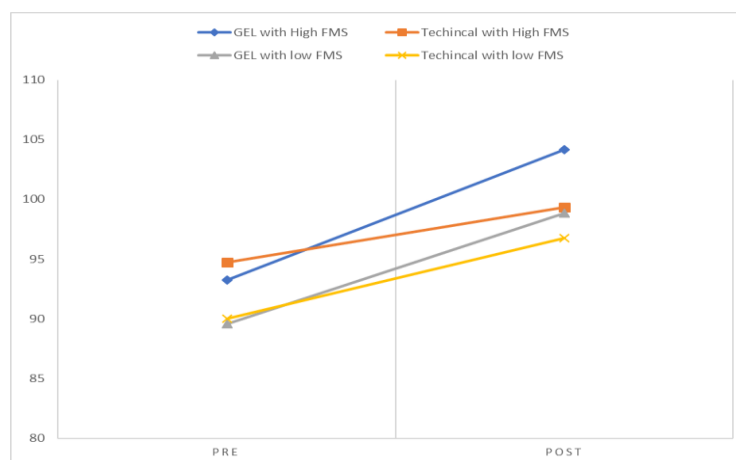


Fig 2. The Interactions of Psychosocial Skills Mean Scores between and within Groups

## **Discussions**

### **The difference in the effect between the GEL training model and the technical training model on psychosocial skills**

Participation in team sports is associated with improved social and psychological health regardless of the type of team sport, age, somatic, or mental health problems. The findings of various studies suggest that team sports can be more efficient at promoting health and ensuring exercise participation and continuation than individual sports (Andersen et al., 2019; Dishon, 2017; Faradiba & Royanto, 2018; Gaines, 2012a, 2012b; Kilic & Ince, 2021; SANLAV, 2021; Stadler Blank et al., 2018). The GEL training model is a training model consisting of several stages, including: 1) warm-up activities (5-10 minutes), 2) core exercise 1, which involves games for the development of one character value (efforts are made to ensure that the activities are always relevant to one of the skills) (20-30 minutes), 3) core exercise 2, which includes games for developing technical skills (20-30 minutes), 4) core exercise 3, which consists of playing 7 vs 7 according to federation regulations (The Indonesian Football Association) (20-30 minutes), and 5) cooling down activities (5-10 minutes) (Sulistiyono, Andry, et al., 2021; Sulistiyono, Sugiyanto, et al., 2021). Based on hypothesis testing, there is a significant difference between the effects of the GEL training model and the technical training model on psychosocial skills. Training with a technical approach actually also provides an increase in psychosocial skills, but based on the results of the analysis, the GEL training model group reached higher improvement in psychosocial skill than the technical training model group. GEL based training model allows youth soccer players to learn the academic aspect and sports practice that can help them gain new experiences (Perttula et al., 2017). Play model provides youth soccer players with a fun training experience and improves learning outcomes (Fuster-Guilló et al., 2019). Experience learning is declared effective for leadership development, especially in situations where youth soccer players work in teams (Gil-Arias et al., 2017). Experience learning has been used so that youth soccer players are able to make decisions (Barquero-Ruiz et al., 2020; Robles et al., 2020; Sierra-Ríos et al., 2020).

### **The difference in the effect between youth soccer players with high and low FMS on psychosocial skills**

According to the results of the analysis, there is a significant difference in the effects between youth soccer players with high and low FMS on psychosocial skills. Youth soccer players with high FMS do better than those with low FMS. Many previous studies examine the impact of sports classes and physical education on moral development. Physical activities play an important role in youth soccer players' psychological well-being and their perception of health, and can serve as a safeguard against the overemphasis on extrinsic values (Olmedilla et al., 2019; Tjomsland et al., 2016). Youth soccer players who practice and are passionate about sports with high movement skills have more negative attitudes towards bullying, compared to others. Further, sports reduces general psychological tension, practices disciplines, teaches fair play, regulates life, and fosters respect for others. Practicing sports is related to a concrete vision of life. Through the nature of this activity and through attention/focus on oneself, regular physical activities serve as a source of personal development and value orientation in relation to health attitudes (Faradiba & Royanto, 2018; Gaines, 2012a; Marini et al., 2021; Mihai, 2011; Morgan et al., 2013; Sulistiyono, Andry, et al., 2021; Tukaiev et al., 2019). Movement, games and sports are part of human life, which encourage people to improve not only their physical well-being, but also the psychological and social skills among children (Minghetti et al., 2021; Zheng et al., 2021). Among the psychosocial benefits, sports activities can help develop a sense of competence, self-determination, autonomy and internal locus of control.

### **Interaction between training models (GEL and technical training) with FMS (high and low) on psychosocial skills**

Based on the results of this study, there is a significant effect as a result of the interactions between the GEL and technical training models and the high and low FMS on psychosocial skills. The results show that the GEL training model is a more effective method for youth soccer players with high FMS, whereas the technical training model group was more effective for youth soccer players with low FMS. Based on the form of interaction, it appears that the main factors of the study show a significant interaction. In the results of this study, the interaction means that in each cell or group there is a difference in the effect of each paired group. Pairs with interactions or partners that are significantly different are:

1. The group of youth soccer players who were trained using the GEL training model with high FMS was better in psychosocial skills than those who were trained using the technical training model with high FMS, with a sig value of 0.000 <0.05.
2. The group of youth soccer players who were trained using the GEL training model with high FMS was better in psychosocial skills than those who were trained using the GEL training model with low FMS, with a sig value of 0.000 <0.05.
3. The group of youth soccer player who were trained using the GEL training model with high FMS was better than those who were trained using the technical training model with low FMS on psychosocial skills, with a sig value of 0.018 <0.05.

This finding is in line with previous studies that report that FMS are related to the development of psychological aspects and social interactions, especially in children. Children with high FMS tend to be able to process experiences into lessons that can be used to make subsequent decisions that are able to support their psychological and social conditions (C. H. S. Chan et al., 2019b; Eisenmann et al., 2020).

## Conclusions

Based on the results of the research and the results of data analysis, several conclusions are obtained. First, there is a significant difference in the effects between the GEL training model and the technical training model on psychosocial skills. The GEL training model is better to improve psychosocial skills than the technical training model. Moreover, there is a significant difference in the effects between youth soccer players with high and low FMS on psychosocial skills. Youth soccer players with high FMS are better than youth soccer players with low FMS on the improvements of psychosocial skills. Lastly, there is a significant effect of the interactions between the GEL and technical training models and the high and low FMS on psychosocial skills.

In light of research evidence, this study acknowledges that although both the GEL and technical training models can improve the psychosocial abilities of youth soccer players, it is found that GEL training model can improve the psychosocial skills better than the technical training model. The GEL training model will also be more effectively applied to youth soccer players with higher FMS in improving their psychosocial skills. In this regard, youth soccer players with high FMS tend to be able to process experiences into lessons that can be used to make subsequent decisions that are able to support their psychology and social conditions. It is recommended that soccer coaches apply the GEL model training to youth soccer players to improve not only the physical and technical aspects, but also psychosocial skills by considering the athletes' FMS.

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# The Effect of Game Experience Learning Model and Fundamental Movement Skills on the Psychosocial Skills of Youth Soccer Players

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## Abstract:

The optimal achievement that a team or athlete can achieve at a particular time in sports is influenced by many factors, including the technical, physical, tactical, and mental skills of the players. In addition, psychosocial skills are an important factor in supporting the success of a team or athlete. This study was based on experimental research to determine: 1) the difference in the effects between GEL training model and technical training model on improving psychosocial skills, 2) the difference in the effects between youth soccer players with high and low fundamental movement skills on psychosocial skills, and 3) the effect of interactions between the GEL and technical training models and the high and low fundamental movement skills on the psychosocial skills of youth soccer player (N=48, age 9-10 years). The instruments used for this study were: 1) The Test of Gross Motor Skills (TGMD-2), and 2) The Psychosocial Skills Scale (PSS) developed by Soni Nopembri. Analysis of the data used the analysis technique of variance (ANOVA) design and further testing using the Tukey test. The results show that there is a significant difference in the effects between the GEL training model and the technical training model on psychosocial skills. The GEL training model is better to improve psychosocial skills than the technical training model. Moreover, there is a significant difference in the effects between youth soccer players with high and low FMS on psychosocial skills. Youth soccer players with high FMS are better than youth soccer player with low FMS in improving their psychosocial skills. Lastly, the study finds that there is a significant effect on psychosocial skills as a result of the interactions between the GEL and technical training models and the high and low FMS.

**Key Words:** *game experience learning, fundamental movement skills, psychosocial skills, youth soccer players*

## Introduction

The optimal achievement that a team or athlete can achieve at a certain time in sports is influenced by many factors including the technical, physical, tactical, and mental skills of the players (Antoni et al., 2021; T. Bompá & Carrera, 2015; T. O. Bompá & Buzzichelli, 2019). The age of 7-12 years for youth soccer players is a period of developing basic movements and playing skills which include technical, physical, and tactical development. The training model applied must be enjoyable so that a love for training and football is embedded in every individual. The skill training process continues to be carried out by incorporating the development of attitudes, behaviors, and characters in the talent development phase. Exercises to improve skills in the sport of football, especially at the age of 7-12 years, as described above, must be pursued in a pleasant, effective, efficient way which manages to develop all components of playing skills: technical, physical and tactical skills. At the same time, character development is a challenge, and innovations must be developed (Abarghoueinejad et al., 2021; Machado et al., 2021; Pena-González et al., 2019).

Fundamental movement skills (FMS) or basic movement skills are the basis for learning and developing. Often the training process carried out in football only targets physical and technical skills. On the other hand, youth soccer players also need to develop psychosocial skills for their development as adults. Otherwise, they will not succeed in using various sports and game skills in their childhood and adolescence. FMS are essential for achieving proficiency in various sports, games, and gymnastics. It is also a basis for efficient and effective movements for children to explore the environment and gain knowledge about the world around them (C. H. S. Chan et al., 2019a; Foulkes et al., 2015; Gimenez et al., 2012; Liong et al., 2015).

The process of coaching and training in football for children aged 7-12 years, in addition to developing skills/techniques, also involves the development of psychological and social aspects (Piñeiro-Cossio et al., 2021). The term 'psychosocial' refers to the dynamics of the relationship between the psychological and social dimensions of a person, in which they affect each other. The psychological dimension includes internal, emotional, and thought processes, feelings, and reactions. The social dimension includes relationships, family and community networks, social values, and cultural practices. The term 'psychosocial' also reflects to something that everyone shares. As humans, we all have feelings and thoughts that influence how we react to life situations and how we relate to other people through moving, playing, and sports to develop not only the physical aspect, but also the psychosocial ones (González-Serrano et al., 2020; Santina et al., 2017; Sierra-Ríos et al., 2020).

Previous research has shown that the personal skills and social skills of youth soccer players are still not good

enough (Mossman & Cronin, 2019; Musculus et al., 2016; Thomas et al., 2021). Some of the training processes carried out in football only target physical and technical skills. Meanwhile, youth soccer players need to develop psychosocial skills for their development as adults. On the other hand, the process of coaching and training football for children aged 7-12 requires an appropriate training model according to the characteristics of the child. Games Experience Learning or GEL-based training model is a learning model that applies the theory of experiential learning where learning or training contains four stages, namely experience in the form of playing, reflection, understanding the concept, and implementation (Bober, 2010; K. Chan et al., 2021; Perttula et al., 2017; Zhang et al., 2021). Based on various considerations behind this problem, this research focused on the effects of GEL-based training model and the technique-based training model on psychosocial skills. In addition, this study was also conducted on subjects with high and low FMS. This was done to determine the differences in psychosocial skills of youth soccer players aged 9-10 years by using the two training models among subjects with different FMS. This research determines: 1) the difference in the effects between the GEL training model and the technical training model on improving psychosocial skills, 2) the difference in the effects between youth soccer players with high and low fundamental movement skills on psychosocial skills, and 3) the effect of interactions between the GEL and technical training models and the high and low fundamental movement skills on the psychosocial skills of youth soccer players.

### Material & methods

Soccer school students aged 9-10 years in Klaten Regency with a total of 48 youth soccer players who had no health problems or significant motor disorders agreed to participate in the research and were classified based on their FMS using the TGMD-2 (Ulrich, 2000). Half of youth soccer players with high FMS (B1) trained with GEL approach training program (A1), and the other half trained with a technical approach training program (A2). The same treatment was also done for youth soccer players with low FMS (B2). This research involved one manipulated independent variable, one controlled independent variable (attribute) and one dependent variable. The dependent variable was psychosocial skills, whereas the independent variable manipulated was the training method consisting of: (1) the GEL approach training model and (2) the technical approach training model. The controlled independent variables (attributes) consisted of: (1) high FMS and (2) low FMS. Subjects were trained three sessions each week for 8 weeks (a total of 24 sessions).

Training Model (A)		The GEL Approach Training Model (A1)	The Technical Approach Training Model (A2)
FMS (B)			
High (B1)		A1B1	A2B1
Low (B2)		A1B2	A2B2

Fig. 1. Research Subjects Model

The instruments used for this study were TGMD-2 and the Psychosocial Skill Scale (PSS). The TGMD-2 is a standardized test that has been validated to measure the qualitative elements of FMS in children aged three to ten. It was used to observe FMS, in which six locomotor skills (horizontal jump, run, leap, hop, slide, and gallop) and six object handling abilities (overhand throw, kick, underarm roll, strike, catch, and dribble) were assessed. The next instrument was the Psychosocial Skill Scale (PSS) developed by Soni Nopembri (Nopembri & Sugiyama, 2019) with four subscale structures, including stress coping, communication, social awareness, and problem-solving skills. The PSS has been validated and deemed reliable to measure the psychosocial skills on children aged 7-15 years (Nopembri & Sugiyama, 2019). Data of psychosocial skills and FMS were then analyzed using the analysis of variance (ANOVA) followed by further testing using Tukey test. Before the data were analyzed, requirement tests were first carried out, namely the normality test using the Shapirow-Wilk, and Levene test for the homogeneity test with a significance level ( $\alpha$ ) of 0.05 for all tests.

### Results

Table 1. The Descriptive Results of Pre- and Post-tests of Psychosocial Skills

Group	Test	Minimum	Maximum	Mean	Std. Deviation
GEL with High FMS (A1B1)	Pre	82,00	113,00	93,25	7,79
	Post	99,00	115,00	104,17	5,17
Technical with High FMS (A2B1)	Pre	82,00	111,00	94,75	9,19
	Post	86,00	112,00	99,33	7,96
GEL with Low FMS (A1B2)	Pre	77,00	117,00	89,58	14,68
	Post	82,00	118,00	98,83	13,52

Technical with Low FMS (A2B2)	Pre	80,00	106,00	90,00	8,75
	Post	90,00	112,00	96,75	6,65

Research data on pretests and posttests of psychosocial skills are shown descriptively in Table 1. All pretest and posttest data on psychosocial skills are normally distributed with a significance value of  $p > 0.05$  according to the normality test used, namely the Shapiro-Wilk method using the SPSS 20.0 software program for Windows with a significance level of 5% or 0.05. The Levene homogeneity test with significance value of  $\geq 0.05$  was intended to test the similarity of variance between the pretest and posttest. The result showed that the data groups were homogeneous ( $sig = 0.071$ ).

The ANOVA results showed that there is a significant difference between the effects of GEL and technical training model on psychosocial skills with F value of 4.919 and the significance value ( $p$ ) of  $0.032 < 0.05$ . The results of the analysis also show that the GEL training group has a higher average improvement (15.17) than the technical training group with an average improvement of 11.33. There is a significant difference in the effects between youth soccer players with high and low FMS on psychosocial skills with F value of 6.779 and significance value ( $p$ ) of  $0.013 < 0.05$ . Youth soccer players with high FMS did better with an average improvement of 7.75 than those with low FMS with an average improvement of 5.50. There is a significant effect of the interaction between the GEL and technical training models and the high and low FMS on psychosocial skills improvement with F value of 26.119 and the significance value of  $p$  of  $0.000 < 0.05$ .

Table 2. Result of Tukey Test

Group	Interaction	Mean Difference	Std. Error	Sig.
A1B1	A2B1	6.0000*	1.24367	.000
	A1B2	6.3333*	1.24367	.000
	A2B2	3.8333*	1.24367	.018
A2B1	A1B1	-6.0000*	1.24367	.000
	A1B2	.3333	1.24367	.993
	A2B2	-2.1667	1.24367	.315
A1B2	A1B1	-6.3333*	1.24367	.000
	A2B1	-.3333	1.24367	.993
	A2B2	-2.5000	1.24367	.200
A2B2	A1B1	-3.8333*	1.24367	.018
	A2B1	2.1667	1.24367	.315
	A1B2	2.5000	1.24367	.200

Tukey test (Table 2) was implemented for further testing of the effect of interactions between the GEL and technical training models and the high and low FMS on psychosocial skills. Based on the result of the Tukey test (Table 2), the pairs with significantly different interactions are: (1) A1B1-A2B1, (2) A1B1-A1B2, (3) A1B1-A2B2, while pairs with no significantly different effects are: (1) A2B1-A1B2, (2) A2B1-A2B2, and (3) A1B2-A2B2.

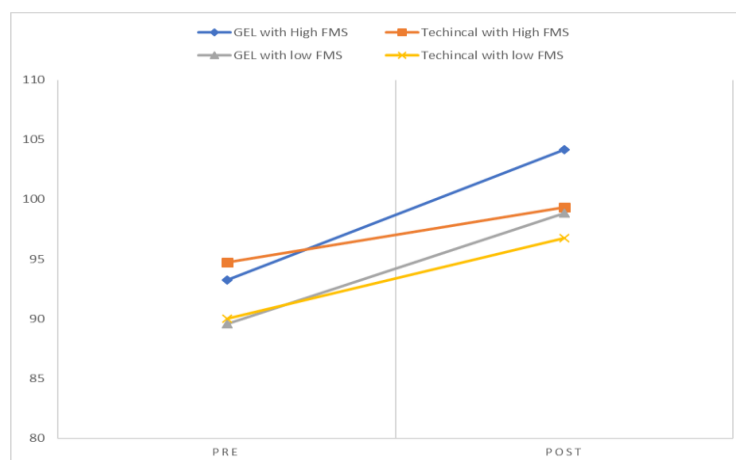


Fig 2. The Interactions of Psychosocial Skills Mean Scores between and within Groups

## **Discussions**

### **The difference in the effect between the GEL training model and the technical training model on psychosocial skills**

Participation in team sports is associated with improved social and psychological health regardless of the type of team sport, age, somatic, or mental health problems. The findings of various studies suggest that team sports can be more efficient at promoting health and ensuring exercise participation and continuation than individual sports (Andersen et al., 2019; Dishon, 2017; Faradiba & Royanto, 2018; Gaines, 2012a, 2012b; Kilic & Ince, 2021; SANLAV, 2021; Stadler Blank et al., 2018). The GEL training model is a training model consisting of several stages, including: 1) warm-up activities (5-10 minutes), 2) core exercise 1, which involves games for the development of one character value (efforts are made to ensure that the activities are always relevant to one of the skills) (20-30 minutes), 3) core exercise 2, which includes games for developing technical skills (20-30 minutes), 4) core exercise 3, which consists of playing 7 vs 7 according to federation regulations (The Indonesian Football Association) (20-30 minutes), and 5) cooling down activities (5-10 minutes) (Sulistiyono, Andry, et al., 2021; Sulistiyono, Sugiyanto, et al., 2021). Based on hypothesis testing, there is a significant difference between the effects of the GEL training model and the technical training model on psychosocial skills. Training with a technical approach actually also provides an increase in psychosocial skills, but based on the results of the analysis, the GEL training model group reached higher improvement in psychosocial skill than the technical training model group. GEL based training model allows youth soccer players to learn the academic aspect and sports practice that can help them gain new experiences (Perttula et al., 2017). Play model provides youth soccer players with a fun training experience and improves learning outcomes (Fuster-Guilló et al., 2019). Experience learning is declared effective for leadership development, especially in situations where youth soccer players work in teams (Gil-Arias et al., 2017). Experience learning has been used so that youth soccer players are able to make decisions (Barquero-Ruiz et al., 2020; Robles et al., 2020; Sierra-Ríos et al., 2020).

### **The difference in the effect between youth soccer players with high and low FMS on psychosocial skills**

According to the results of the analysis, there is a significant difference in the effects between youth soccer players with high and low FMS on psychosocial skills. Youth soccer players with high FMS do better than those with low FMS. Many previous studies examine the impact of sports classes and physical education on moral development. Physical activities play an important role in youth soccer players' psychological well-being and their perception of health, and can serve as a safeguard against the overemphasis on extrinsic values (Olmedilla et al., 2019; Tjomsland et al., 2016). Youth soccer players who practice and are passionate about sports with high movement skills have more negative attitudes towards bullying, compared to others. Further, sports reduces general psychological tension, practices disciplines, teaches fair play, regulates life, and fosters respect for others. Practicing sports is related to a concrete vision of life. Through the nature of this activity and through attention/focus on oneself, regular physical activities serve as a source of personal development and value orientation in relation to health attitudes (Faradiba & Royanto, 2018; Gaines, 2012a; Marini et al., 2021; Mihai, 2011; Morgan et al., 2013; Sulistiyono, Andry, et al., 2021; Tukaiev et al., 2019). Movement, games and sports are part of human life, which encourage people to improve not only their physical well-being, but also the psychological and social skills among children (Minghetti et al., 2021; Zheng et al., 2021). Among the psychosocial benefits, sports activities can help develop a sense of competence, self-determination, autonomy and internal locus of control.

### **Interaction between training models (GEL and technical training) with FMS (high and low) on psychosocial skills**

Based on the results of this study, there is a significant effect as a result of the interactions between the GEL and technical training models and the high and low FMS on psychosocial skills. The results show that the GEL training model is a more effective method for youth soccer players with high FMS, whereas the technical training model group was more effective for youth soccer players with low FMS. Based on the form of interaction, it appears that the main factors of the study show a significant interaction. In the results of this study, the interaction means that in each cell or group there is a difference in the effect of each paired group. Pairs with interactions or partners that are significantly different are:

1. The group of youth soccer players who were trained using the GEL training model with high FMS was better in psychosocial skills than those who were trained using the technical training model with high FMS, with a sig value of  $0.000 < 0.05$ .
2. The group of youth soccer players who were trained using the GEL training model with high FMS was better in psychosocial skills than those who were trained using the GEL training model with low FMS, with a sig value of  $0.000 < 0.05$ .
3. The group of youth soccer player who were trained using the GEL training model with high FMS was better than those who were trained using the technical training model with low FMS on psychosocial skills, with a sig value of  $0.018 < 0.05$ .



This finding is in line with previous studies that report that FMS are related to the development of psychological aspects and social interactions, especially in children. Children with high FMS tend to be able to process experiences into lessons that can be used to make subsequent decisions that are able to support their psychological and social conditions (C. H. S. Chan et al., 2019b; Eisenmann et al., 2020).

## Conclusions

Based on the results of the research and the results of data analysis, several conclusions are obtained. First, there is a significant difference in the effects between the GEL training model and the technical training model on psychosocial skills. The GEL training model is better to improve psychosocial skills than the technical training model. Moreover, there is a significant difference in the effects between youth soccer players with high and low FMS on psychosocial skills. Youth soccer players with high FMS are better than youth soccer players with low FMS on the improvements of psychosocial skills. Lastly, there is a significant effect of the interactions between the GEL and technical training models and the high and low FMS on psychosocial skills.

In light of research evidence, this study acknowledges that although both the GEL and technical training models can improve the psychosocial abilities of youth soccer players, it is found that GEL training model can improve the psychosocial skills better than the technical training model. The GEL training model will also be more effectively applied to youth soccer players with higher FMS in improving their psychosocial skills. In this regard, youth soccer players with high FMS tend to be able to process experiences into lessons that can be used to make subsequent decisions that are able to support their psychology and social conditions. It is recommended that soccer coaches apply the GEL model training to youth soccer players to improve not only the physical and technical aspects, but also psychosocial skills by considering the athletes' FMS.

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**ETHICS APPROVAL STATEMENT**

No. 23B/6.4/UN34.21/TU/2021

To whom it may concern,

This statement is to inform that the ethics committee at Institute of Research and Community Service (Lembaga Penelitian dan Pengabdian pada Masyarakat), Universitas Negeri Yogyakarta, has approved a study:

**Title: The Effect of Game Experience Learning Model and Fundamental Movement Skills on Psychosocial Skills in Youth Soccer Players**

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The procedure and instruments of the research has satisfied the ethics requirement to conduct and collect data from August 1, - November 30, 2021.

Yogyakarta, 30 July 2021

Vice of Director



Prof. Dr. Siti Irenè Astuti D, M.Si

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