

## The Impact of Parental Support on Performance Achievement through Achievement Motivation in Elite Athletes in South Kalimantan, Indonesia: A Cross-Sectional Study with Structural Equation Modeling Analysis

### El impacto del apoyo de los padres en el logro del rendimiento a través de la motivación para el logro en atletas de élite en Kalimantan del Sur, Indonesia: un estudio transversal con análisis de modelos de ecuaciones estructurales

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**Abstract.** This study aims to analyze the effect of parental support (PS) on performance achievement (PA) through achievement motivation (AM) in South Kalimantan province. Cross-sectional method was used in order to avoid errors and biases. The analysis used structural equation modeling (SEM) with the help of smart PLS. The sample was 120 athletes (67 men and 53 women); the characteristics (mean±SD) were as follows: aged 20.2±2.4, have 6.6±8.1 years of training experience, have 12.4±2.8 years of training, have 15.5±6.4 years of competition age, and have ten hours of training duration (five meetings a week). The types of sports included football, basketball, volleyball, athletics, swimming, boxing, tennis, pencak silat, gymnastics, and archery. The research instrument, in the form of a statement item presented as a questionnaire, was then distributed through Google Forms and has gone through the validation stage. The results showed that all items showed outer loading >0.7 and Cronbach's alpha >0.9. The goodness of Fit (GoF) showed the value of Standardized Root Mean Square Residual (SRMR) was 0.061<0.08 or <0.10. Path analysis (P-Values) showed AM on PA was 0.000, PS on AM was 0.000, PS on PA was 0.002, and PS on PA through AM was 0.000. The results of this study are expected to add insight for a coach and athlete that it is important to involve parents in the context of achievement sports. The suggestion from the results of this study is to add more samples and develop relevant variables about the impact of parental support on athlete performance and achievement motivation.

**Keywords:** Parental Support, Achievement Motivation, Performance Achievement, Athlete

**Resumen.** Este estudio tiene como objetivo analizar el efecto del apoyo de los padres (PS) sobre el logro del desempeño (PA) a través de la motivación de logro (AM) en la provincia de Kalimantan del Sur. Se utilizó el método transversal para evitar errores y sesgos. El análisis utilizó modelos de ecuaciones estructurales (SEM) con la ayuda de PLS inteligente. La muestra fue de 120 deportistas (67 hombres y 53 mujeres); las características (media ± DE) fueron las siguientes: edad de 20,2 ± 2,4 años, 6,6 ± 8,1 años de experiencia en entrenamiento, 12,4 ± 2,8 años de entrenamiento, 15,5 ± 6,4 años de edad de competición y diez horas de duración de entrenamiento (cinco reuniones por semana). Los tipos de deportes incluían fútbol, baloncesto, voleibol, atletismo, natación, boxeo, tenis, pencak silat, gimnasia y tiro con arco. El instrumento de investigación, en forma de un ítem presentado como un cuestionario, luego se distribuyó a través de Google Forms y pasó por la etapa de validación. Los resultados mostraron que todos los ítems mostraron una carga externa >0,7 y un alfa de Cronbach >0,9. La bondad de ajuste (GoF) mostró que el valor del residuo cuadrático medio estandarizado (SRMR) fue 0,061<0,08 o <0,10. El análisis de ruta (valores P) mostró que AM en PA fue 0,000, PS en AM fue 0,000, PS en PA fue 0,002 y PS en PA hasta AM fue 0,000. Se espera que los resultados de este estudio aporten información para entrenadores y atletas sobre la importancia de involucrar a los padres en el contexto de los deportes de rendimiento. La sugerencia de los resultados de este estudio es agregar más muestras y desarrollar variables relevantes sobre el impacto del apoyo de los padres en el rendimiento de los atletas y la motivación de logro.

**Palabras clave:** apoyo de los padres, motivación de logro, logro de desempeño, atleta

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## Introduction

Athlete's performance results from a long training process starting from the beginning of training to obtain the highest achievement. Performance shows how well the athlete's ability level is when training, during the competition or when not in the competition periodization phase (Ali Sheerkhan & Rustum Yaqoob, 2022; Smyth et al., 2023). Ideally, performance indicators that must be achieved and improved by athletes to get achievement are excellent physical test results, good technical quality, many variations in tactics, and psychological conditions that are ready to compete (Karahana & Çolak, 2022; Velasco et al., 2023). In addition, athlete's experience, such as how many years of training are undertaken to the number of competitions participated, also affects performance results (Mitić et al.,

2021). An athlete's performance can also be interpreted as how many gold medals have been collected or how the athlete retains the champion or first place in sports. Factors that affect performance are very diverse, including training facilities, coach capabilities, organizational influence (Juita et al., 2024; Prabowo et al., 2024). Then, factors such as parental or family support, friend support, and finances are also able to affect performance (Martínez-Alvarado et al., 2021; Hong & Fraser, 2022; Burke et al., 2023). In addition, a factor that is also important is the achievement motivation possessed by the athlete (Han et al., 2022; Zainuddin et al., 2023). In fact, many factors include complete training facilities, coaches with competencies and licenses, organizational support, and social support to monthly stipends, but achievement performance of an athlete is still difficult to realize. During competitions, many athletes

fail to achieve victory or to remain champions. Therefore, it is suspected that achievement motivation plays an important role in athlete's performance (Mandan et al., 2024; Wijayanti et al., 2024).

Another factor that is also important for an athlete's performance is it should start from achievement motivation (Yukhymenko-Lescroart, 2021; Abod & AlHaddad, 2022). When the athlete's motivation is strong, the athlete will be ready to undergo a very strenuous training period until a difficult competition, where the results of the competition athletes can experience defeat. Previous studies find that achievement motivation is the most significant factor for athlete's achievement performance both in individual or team sports (Ceylan et al., 2022; Lee et al., 2022). These results explain that motivation to show strength and motivation to approach success is more dominant in team sports, while motivation to avoid failure is more dominant in individual sports (Ceylan et al., 2022). Then, the results of other study also explains that certain types of sports also determine forms of motivation such as achievement motivation, incentive motivation, participation motivation, goal orientation, satisfaction and enjoyment in sports, self-efficacy, effort, anxiety and ability attribution (Tušak et al., 2022; Saniah et al., 2024; Widyastuti et al., 2024). For athletes who have had a long experience, of course, the training process begins at an early age. At an early age, the role of parents is very important because athletes are still under the guidance and supervision of parents (Burke et al., 2023). The role of parents in realizing the achievement performance of an athlete can be analyzed from the involvement of parents to meet the needs of athletes, participate in supporting athletes during competition, and pay attention when athletes win or lose in competition (Vargas et al., 2022; Kramers et al., 2023). Based on the results of observations, the average athlete begins training and becomes an athlete at the age of 12-13, while the introduction of sports at the age of 7-8. Other results also explained that parents like their children to train in these sports, and few want their children to become athletes.

The results of previous studies are based on an analysis of factors that affect performance and achievement motivation based on the influence of parental support, namely the results of research conducted on 42 senior badminton athletes. The results of this study show a significant relationship between parental support and achievement motivation. The interview analysis also explains that parental support can significantly influence the quality of play of the athletes (Terok & Huwae, 2022). The results of further research on 125 student-athletes who will compete at the national level show that support for parents significantly affects achievement performance through achievement motivation (Mandan et al., 2024). Then, a survey of 319 athletes aged 7-18 from various sports reveals that their parents rarely participated actively in the context of sports, especially in individual sports (Silva et al., 2022). Thus, athlete's achievement motivation is uncertain, and it impacts their performance when training and competing.

Based on the identification of these problems, this study aims to analyze the effect of parental support on achievement performance through achievement motivation in South Kalimantan province. This study chose a population in South Kalimantan because, based on previous observation, athlete's achievement at the national level has increased significantly over the past two years. Then, athletes who have recorded achievements in the national arena show that they start training at an early age or adolescence. It is evidenced by the history of athletes who have won several competitions in the junior category or student level in the previous year and are still high-achieving national athletes. However, a few athletes also failed to become champions or could not maintain champions in previous competitions. For the results of this study to explain the variables of achievement performance, achievement motivation, and parental support, this analysis uses structural equation modeling (SEM). The advantages of SEM analysis are that it can reveal variables that cannot be measured directly, answer research problems more systematically, and confirm theories according to research data. It is expected that the results of this study provide insights and references on whether parental support can significantly impact achievement motivation and achievement performance of athlete.

## Methods

### Research Study

This research is a cross-sectional study, meaning that the data collection is carried out observationally at one time. However, there are some weaknesses in this research method because it is difficult to analyze the cause-and-effect relationship and is prone to bias (Kesmodel, 2018; Wang & Cheng, 2020). To minimize errors, this study's analysis of the cross-sectional method used a structural equation modeling approach. Research using the cross-sectional method with structural equation modeling has been proven to be able to analyze well in social or psychological research (Lisboa et al., 2021; Hatami & Shekarchizadeh, 2022; Stepanous et al., 2023), so this method would be suitable to be used in this research.

### Study Participants

The population of this study was senior athletes from the South Kalimantan province, Indonesia, and the total sample involved was 120 athletes (67 men and 53 women). The sample was selected based on athletes who had won competitions at least at the provincial level and were currently undergoing competition periodization. Based on the results of the initial analysis that has been collected, the characteristics of athletes (mean $\pm$ SD) were as follows: aged 20.2 $\pm$ 2.4, have 6.6 $\pm$ 8.1 years of training experience, have 12.4 $\pm$ 2.8 years of initial training, have 15.5 $\pm$ 6.4 years of competition age, and have ten hours of training duration (five meetings a week). Types of sports included football, basketball, volleyball, athletics, swimming, boxing, tennis, pencak silat, gymnastics, and archery.

**Research Instrument**

It consisted of two stages of instrument arrangement; the first stage involved collecting materials from several literature reviews. Results in the first stage, in the independent variable, show parental support consists of four factors (Juriana et al., 2021; Zheng & Yang, 2022; Burke et al., 2023). The first factor is emotional support, which contains expressions of empathy and concern. The second factor is instrumental support, which includes direct assistance during training and competition. The third factor is informative support, which contains suggestion and advice. The fourth factor is the support of rewards that contain positive expressions, motivation, and rewards.

The dependent variable, namely performance, consists of four factors (Nugroho et al., 2021b; Mandan et al., 2024; Wijayanti et al., 2024; Juita et al., 2024). The first factor is the ability to record the progress of physical test results, the quality of techniques and tactics, and the progress of several previous competitions. The second factor is the training load, which contains the suitability of the volume and intensity of training to the competition periodization and the duration of time carried out in one week. The third factor is discipline, punctuality when training is present, and compliance with the training program. The fourth factor is the mentality that contains match readiness.

The mediator variable, namely achievement motivation, consists of six factors (Rismayanthi et al., 2023). The first factor is Approach Success (MSO), the second factor is Avoidance-Failure (MFO), the third factor is Approach-Success in Competition (MSC), the fourth factor is Approach Success in Training (MST), the fifth factor is Avoidance-Failure in Competition (MFC). The sixth factor is

Avoidance-Failure in Training (MFT).

In the second stage, after the collection of the first stage was completed, it was then carried out with the FGD (focus group discussion), which was attended by seven qualified sports coaching education lecturers with a minimum of doctoral qualifications and 13 sports coaches who had national-level coach licenses and had a bachelor’s degree in sports. This FGD aims to validate suitable statement items given to athletes. The FGD procedure is for lecturers and coaches to provide statements of agreement or disagreement with each statement item. In addition, lecturers and coaches are also given the authority to provide suggestions or criticism on the instrument. The form of this research instrument is in the form of a questionnaire distributed through Google Forms. The scale used in this study is 1 – 5: 1 ‘very poor’, 2 ‘poor’, 3 ‘fair’, 4 ‘good’, and 5 ‘very good’.

**Statistical Analysis**

Statistical analysis of this study used the help of Smart-PLS version 3.2.9. This study analyzed the values of outer loading, average variance extracted (AVE), and Cronbach’s alpha. Then, the analysis of inner loading was done by testing the value of good fit and analyzing the path coefficient.

**Results**

In the following Figure 1, it can be seen an analysis using the PLS algorithm. The analysis in this PLS algorithm focuses on explaining the value of outer loading, construct reliability and validity, and goodness of fit.

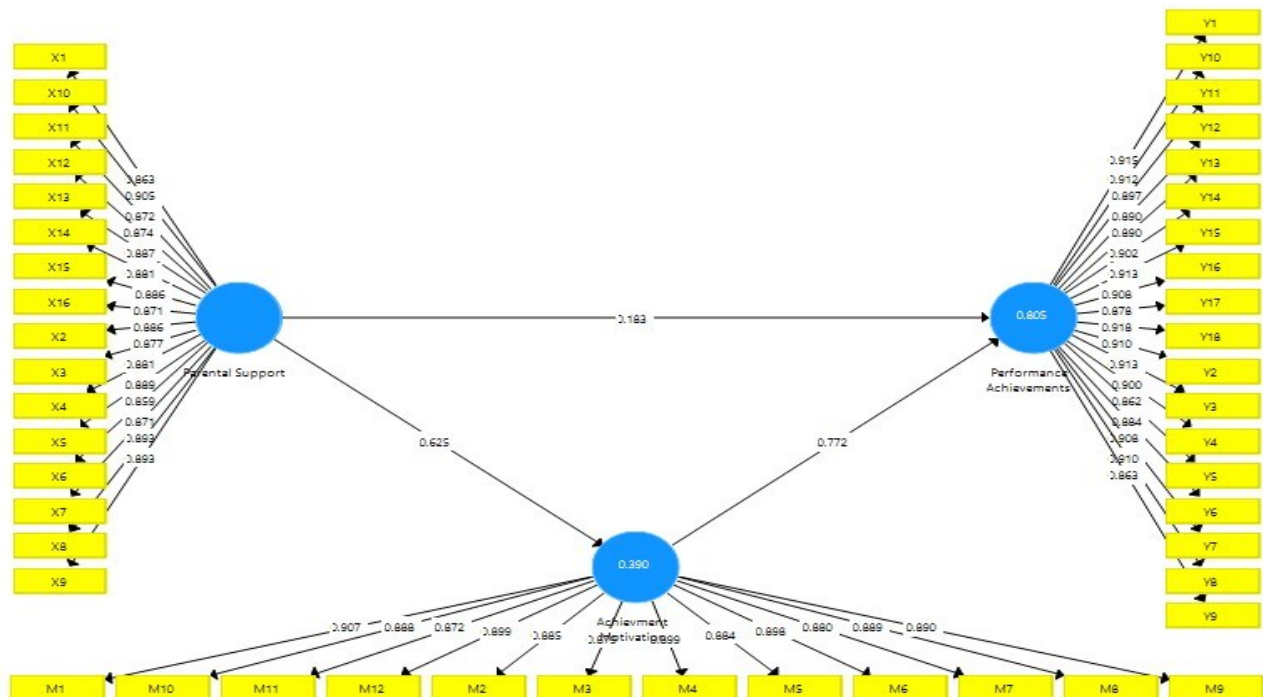


Figure 1. PLS Algorithm Analysis Results

The results in Table 2 show that the outer loading value on the achievement motivation variable is  $>0.70$ , and the Average Variance Extracted (AVE) value is  $0.791 > 0.5$ . The outer loading value on the parental support variable is

$>0.70$ , and the Average Variance Extracted (AVE) value is  $0.775 > 0.5$ . The outer loading value on performance achievement is  $>0.70$ , and the Average Variance Extracted (AVE) value is  $0.808 > 0.5$ .

Table 1. Results of Outer Loading and average variance extracted (AVE)

Achievement Motivation			Parental Support			Performance Achievements		
Code	Outer Loading	Average Variance Extracted (AVE)	Code	Outer Loading	Average Variance Extracted (AVE)	Code	Outer Loading	Average Variance Extracted (AVE)
M1	0.907	0.791	X1	0.863	0.775	Y1	0.915	0.808
M10	0.888		X10	0.905		Y10	0.912	
M11	0.872		X11	0.872		Y11	0.897	
M12	0.899		X12	0.874		Y12	0.890	
M2	0.885		X13	0.887		Y13	0.890	
M3	0.879		X14	0.881		Y14	0.902	
M4	0.899		X15	0.886		Y15	0.913	
M5	0.884		X16	0.871		Y16	0.908	
M6	0.898		X2	0.886		Y17	0.878	
M7	0.880	X3	0.877	Y18	0.918			
M8	0.889	X4	0.881	Y2	0.910			
M9	0.890	X5	0.889	Y3	0.913			
		X6	0.859	Y4	0.900			
		X7	0.871	Y5	0.862			
		X8	0.893	Y6	0.884			
		X9	0.893	Y7	0.908			
				Y8	0.910			
				Y9	0.863			

Based on the results portrayed in Table 2, the value of Cronbach's alpha Achievement Motivation is  $0.976 > 0.6$ , parental support is  $0.981 > 0.6$ , and achievement performance is  $0.986 > 0.6$ . It can be summarized from Table 1 and Table 2 that this instrument item is valid and reliable (Hair et al., 2019; Sarstedt & Cheah, 2019).

Table 2. Cronbach's Alpha Results

	Cronbach's Alpha	rho_A	Composite Reliability
Achievement Motivation	0.976	0.977	0.978
Parental Support	0.981	0.983	0.982
Achievement Performance	0.986	0.986	0.987

Based on Table 3, this study has a good model. The model can be said to have goodness of fit (GoF) criteria if the Standardized Root Mean Square Residual (SRMR) value is  $<0.08$  or  $<0.100$ , the NFI value is  $>0.900$ , and the Theta

rms value is close to 0. Based on the Standardized Root Mean Square Residual (SRMR) value, it shows a value of 0.061. However, the NFI value shows 0.725 and Theta rms shows 0.176. So, it can be concluded that this study has a model that fits the data. (Narimawati et al., 2022).

Table 3. Goodness of Fit (GoF) Results

	Saturated Model	Estimated Model
SRMR	0.061	0.061
d_ULS	4.033	4.033
d_G	5.351	5.351
Chi-Square	2695.582	2695.582
NFI	0.725	0.725
rms Theta	0.176	

Then, an analysis using bootstrapping is shown in the following Figure 2. This bootstrapping analysis focuses on direct and indirect influences.

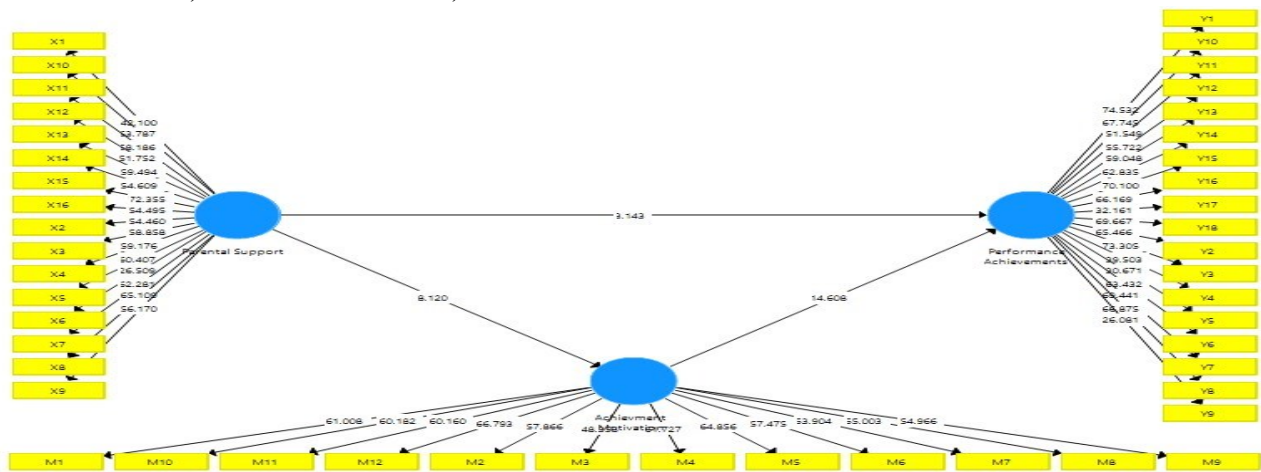


Figure 2. Bootstrapping Analysis Results

The results from Table 4 show the effect of Achievement Motivation on Achievement Performance, namely P Values 0.000 with a magnitude of 0.772. The effect of Parental Support on Achievement Motivation is a P value of 0.000 with a magnitude of 0.625. The effect of Parental Support on Achievement Performance is P Values 0.002, with a large effect of 0.583. The effect of Parental Support on Achievement Performance through Achievement Motivation is a P value of 0.000, with a magnitude of 0.802.

Table 4.  
Path Analysis Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
Achievement Motivation -> Achievement Performance	0.772	0.776	0.053	14.608	0.000
Parental Support -> Achievement Motivation	0.625	0.626	0.077	8.120	0.000
Parental Support -> Achievement Performance	0.583	0.579	0.058	3.143	0.002
Parental Support -> Achievement Motivation -> Achievement Performance	0.802	0.885	0.063	17.613	0.000

## Discussion

The results of this study indicate that parental support positively affects achievement motivation and athlete performance at the elite level. The results of this influence can be analyzed directly or indirectly. The results of this study also support previous research which proves that parental support can motivate athletes during training or competition, and then during competition, athletes can show maximum ability (Terok & Huwae, 2022; Jannah et al., 2022; Krommidas et al., 2022). The form of parental support for athletes in South Kalimantan is emotional, instrumental, informative, and appreciative. Athletes feel that parents often take the time to accompany them to training place, even accompany them until the training is finished, and wait for supporting the athletes before competing. The needs of other athletes, such as training equipment and matches, are still given by parents, even though the official club or team also provides the equipment. However, the provision of equipment is also determined by the team's financial condition, so the assistance provided is sometimes late or only in sufficient quality category. Thus, parents play a role in providing the best equipment for athletes. The parents of athletes in South Kalimantan are also enthusiastic about the results of the athlete competitions. They are also very satisfied with the results given by athletes even though sometimes they cannot perform their best. The parents' satisfaction is evidenced by giving prizes and praise, of course, if the athlete gets a champion, the prize given to the athlete will be greater. The facts in the field were from previous studies that parental support in emotional support, appreciation, information, advice, and praise can make athletes develop well and have high self-confidence (Costa et al., 2021; Gómez et al., 2022; Jannah et al., 2022).

Then, the results of athlete identification in South Kalimantan, such as the average experience of training for 6.6 years and the average age of attending the beginning of training at the age of 12, also show that parents are very involved in sports coaching at an early age. At the age of 12, children certainly need the support of parents. Previous qualitative research analyzing the identification of athlete's talents in Indonesia reported that the role of parents is very supportive in developing positive characteristics in children so that they are involved in sports achievements at an early age (Juriana et al., 2021). Thus, the form of parental support when athletes are still at an early age to become elite athletes has an impact on increasing achievement motivation (Matijasevic et al., 2023; Mandan et al., 2024). The results of a study conducted by Jannah et al (2022) say that parental support affects high self-confidence in athletes. High self-confidence is part of the athlete's achievement motivation (Sari et al., 2015; Carpentier & Mageau, 2016; Atifah et al., 2022; Fariq Ahmad Ghifari et al., 2022; Posavac et al., 2023; Dunan & Sulistiandari, 2023). Then, parental support given to athletes at an early age or student age also has an impact on the athlete's academic condition. So that athletes become more enthusiastic about academic learning (Nikander et al., 2022). The results of the literature review research explain that parents will still pay attention to academic needs apart from sports, help athletes manage their time between school and training, and communicate athlete activity schedules with teachers at school ((Tessitore et al., 2021), (Gjaka et al., 2021)). From the role of parents, it proves that parents of athletes in South Kalimantan really care about and support athletes, so that the results of parental support for their partners will influence the athlete's motivation.

Achievement motivation experienced by athletes in South Kalimantan is a way for athletes to maintain success in training and competition and then avoid failure during training and competition. These results are also by factors that affect athlete achievement motivation, namely factors on how to maintain performance and factors on how to avoid failure (Rismayanthi et al., 2023; Tomoliyus et al., 2024; Djaba et al., 2024). Strong achievement motivation is also inseparable from the role of parental support through direct or indirect support. Parents certainly want children to achieve maximum achievement results, but achieving maximum achievement results also requires a long process. Based on the previous explanation, parents will provide all the best needs for athletes and instrumental and moral support such as advice. The support provided by parents makes athletes realize that they are willing to help athletes by sacrificing time, cost, and energy so that athletes can achieve their goals. The awareness of athletes that causes achievement motivation continues to increase. The results of previous research explain that a number of 319 athletes aged 7 – 18 showed that their parents almost never actively participated in sports (Silva et al., 2022). Consequently, the performance of athletes becomes erratic, which, in the end, the achievement obtained is not optimal. The results of this

study are evidence that parental support greatly determines an athlete's achievement motivation.

Parental support has a very clear influence on athlete's performance through achievement motivation. The results of this study show that parental support for athlete performance through achievement motivation is 0.802. These results were greater than the effect of parental support on performance of 0.583 and the effect of parental support on achievement motivation of 0.625. Performance of athletes in South Kalimantan is the result of improved physical tests, improved quality of technique and tactics, and the ability to complete the program. Achieving maximum performance and maintaining performance for an athlete requires a long process, maturity in athletes and is determined by many factors (Nugroho et al., 2021; Prabowo et al., 2024). Various factors can be done to improve athlete performance, such as the quality of coaches, quality of service, organization, training facilities, and finances (Prabowo et al., 2024; Juita et al., 2024; Wijayanti et al., 2024; Prayoga et al., 2024; Sridana et al., 2024). The results of this study are about factors that can improve athlete performance, causing athlete's achievement motivation to increase. However, from the results of previous studies, it is only possible to analyze the factors that affect athlete performance based on achievement motivation. Then, based on the evidence and analysis of this study using cross-sectional, elite athletes start their training age and career as athletes from an early age, so the role of parents must consider the quality of coaches, club management, and excellent training facilities for their children's achievements because the achievements of athletes at the elite level are determined by high performance and strong achievement motivation, with direct support from parents (Rumahpasal et al., 2020; Kayode et al., 2022; Han et al., 2022; Burke et al., 2023).

The limitation of this study lies in the research sample. This research method uses a cross-sectional, which causes the number of samples that collect questionnaires small because the cross-sectional method retrieves data at one time, so athletes feel unprepared to fill out research questionnaires. However, after the sample, it could be identified that the athletes who completed the questionnaire were, on average, at the age of achieving peak performance, namely at 20 years and with training experience of about 6.6 years. The results of this study are expected to provide insight for coaches and athletes. It is important to involve parents in the context of achievement sports. Because of achievement sports start from early childhood coaching, parents must pay full attention to their children at that age.

## Conclusion

Through this cross-sectional method, parental support affects achievement motivation and athlete performance in South Kalimantan. Parental support can motivate to excel in athletes from the beginning of a career as an athlete to becoming an elite athlete. Parents also show their desire

and commitment to make their children elite athletes. Because athletes feel cared for and fulfilled by all needs, of course, athletes become more enthusiastic, disciplined, confident, and have a fighting spirit. These factors are part of achievement motivation. The resulting impact is that performance in athletes is increasing due to several factors, namely being able to complete training programs, increasing physical test results, increasing the quality of tactical techniques, and most importantly, the results of competitions showing an increase in achievement. Therefore, parents must pay attention to their children from the beginning of training to becoming elite athletes. From the results of this study, it is suggested to add more samples and develop relevant variables about the impact of parental support on athlete performance beside the achievement motivation.

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