

The impact of service quality, family support, and coach-athlete intimacy on the achievement performance of student-athletes through motivation as a mediator

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ABSTRACT

This study aimed at measuring service quality, family support, coach-athlete intimacy to student-athlete achievement performance through motivation as a mediator. This was a correlational descriptive study that utilized the SEM (Structural Equation Modeling) approach with the assistance of Smart PLS. The researchers developed an instrument based on previous research data with a scale of 1–4. The subjects of this study were 125 Riau province student-athletes who will compete at POPNAS (National Student Sports Week) in Indonesia. Subjects consisted of 73 male athletes and 52 female athletes aged 15 ± 1.6 years. For data analysis, we used Smart PLS. The structural relationship model testing generated ten hypotheses. Among these, only the relationship between Coach-Athlete Intimacy and Achievement Performance showed a p-value of $0.532 > 0.05$, indicating a lack of significant effect. However, the remaining nine hypotheses demonstrated a significant effect. The research model fulfills the fit model criteria, with data based on an SRMR (Standardized Root Mean Square) value of 0.064. The publication of this study anticipates improvements in service quality, family support, and nurturing coach-athlete relationships to enhance athlete motivation and achievement performance. Further research endeavors are essential to expand the sample size and explore additional variables influencing sports achievement.

KEYWORDS

Service Quality; Family Support; Coach-Athlete Intimacy; Achievement Performance; Motivation

1. INTRODUCTION

The achievement performance is the outcome of an athlete's work in accordance with established standards and criteria. To attain success, athletes must strive for their utmost potential (Pagdato et al., 2021; Han et al., 2022). Factors that affect the achievement performance of athletes are also very diverse, namely external and internal factors. External factors include the quality of the athlete's training, the coach's competence, the infrastructure facilities, the quality of service, and the circumstances in the match (Jones et al., 2021; Pestano, 2021; Nugroho et al., 2021; Pestano & Ibarra, 2021). While the internal factors of athletes are such as motivation, mentality, discipline, sportsmanship, responsibility (Piskova et al., 2021; Cho & Han, 2021). Previously, many research studies have investigated the achievement performance of athletes who are not student-athletes. However, research that discusses achievement performance in student-athletes still tends to be slight.

Achievement performance has a strong relationship with motivation. If the motivation possessed by the athlete is high, then the athlete tends to be able to achieve the target and maintain the achievement performance within a certain period (Razmaite & Grajauskas, 2021). For young athletes, motivation is a significant influence to train persistently and never give up when competing (Quinaud et al., 2020; Horbenko & Lysenko, 2022). Other research says the motivation of student-athletes to excel consists of intrinsic motivation, such as to find self-esteem, feel self-improvement while extrinsic motivation includes the need for social recognition and dual career (Yukhymenko-Lescroart, 2021; Quinaud et al., 2021). In addition, strong motivation will be able to control athlete anxiety, so that athlete's achievement performance will not be in trouble (Reyes-Hernández et al., 2021; Prabowo et al., 2023). Ideally, producing high-achievement performance through motivation requires other factors such as quality of service, support from family, or a strong relationship between the coach and the student-athlete. These three factors have not been explained through published research.

Research related to the above factors asserts that good service quality of sports clubs can increase satisfaction for student-athletes (Aznar-Ballesta et al., 2022). From the study results, it can be seen that if the satisfaction increases, the training motivation is also increases, and it affects student-athletes' achievement performance. In addition to good service quality, family support is a significant influencing factor. In previous research studies, family support was critical for student-athletes in shaping self-confidence and motivation to sports achievement (Lundy et al., 2019). In addition, strong family support positively influences the well-being, mood of the day, comfort, and quality of sleep of student-athletes (Neyroud & Newman, 2021).

Then, related to the intimate relationship between the coach and athlete is also no less important because athletes need a coach to accompany them in every exercise and match, provide lessons, and the one who can understand the state of the athlete is a coach. A strong relationship between a coach and an athlete can reduce an athlete's anxiety when a match uses intimacy scale of the athlete's coach (Stephen et al., 2022; Wilczyńska et al., 2022). Another study explains that the relationship between coach intimacy with athletes to the anxiety of competing is only 12.5%, while the rest is influenced by other variables (Oktavianingrum & Maryam, 2023). However, the previous studies were limited to martial arts and did not specifically address their impact on student-athlete motivation and achievement performance.

Based on the introduction provided, this study aims to assess the extent of influence exerted by service quality, family support, and coach-athlete intimacy as independent variables on athlete achievement performance, considering motivation as a mediator for this relationship. This study is critical because there is no published research on the motivation and achievement performance of student-athletes. As well as to test the merits of this research model as a reference and basis for related development research.

2. METHODS

This was a correlational descriptive study with SEM (Structural Equating Modeling) approach that examines the relationship between variables in a model, both between indicators and constructs, and relationships between constructs. The subjects of this study were student-athletes with status as active athletes in the province of Riau, as many as 125 athletes. Subjects consisted of 73 male athletes and 52 female athletes aged 15 ± 1.6 years. The sports branch involved in this study were athletics, gymnastics, swimming, badminton, archery, basketball, volleyball, field tennis, table tennis, karate, pencak silat, boxing. The samples were taken based on athletes who will compete at the National Student Sports Week (POPNAS), a multi-event championship held every two years in Indonesia. Athletes were asked to fill in the research instrument by giving a checkmark on one of the values in the statement items, namely "strongly agree" (4), "agree" (3), "disagree" (2), and "strongly disagree" (1). This study was conducted for one month at an athlete's training site. Then to facilitate the research, we obtained approval from the Youth Sports Agency, which handles Riau student-athletes and academics at Yogyakarta State University.

In this study, the researchers developed an instrument based on previous research data; after the data was collected, we created an FGD (Forum Group Discussion) to determine the item

statement on the instrument. This FGD involves sports science lecturers and coaches with a minimum of national licensed coaches.

The first independent variable is service quality consisting of five factors: tangible, empathy, reliability, responsiveness, assurance (Putro et al., 2020), (Nugroho et al., 2021), (Robles et al., 2022). The second independent variable is “family support” consisting of five factors such as emotional, nutritional, reward, instrumental, and informative (Krutsevich et al., 2021; Maciel et al., 2021; Pan et al., 2022; Vargas et al., 2022). The third independent variable "coach-athlete intimate relationship," was derived from the Coach-Athlete Relationship Questionnaire (CART-Q) but has been adjusted to suit the conditions specific to student-athletes (Woolliams et al., 2021; Ahmad et al., 2021; Jin et al., 2022).

The mediator variable, serving as a bridge to the dependent variable, is motivation, comprising intrinsic and extrinsic motivation (Filippos et al., 2019; Moradi et al., 2020; Quinaud et al., 2021; Lee et al., 2022). The researchers simplified motivation into two factors for better understanding among student-athletes.

Regarding the dependent variable, which is achievement performance, we adapted previous quantitative or descriptive correlational research. This encompasses athletes' perceived abilities during training, physical test results, adherence to training loads based on coaching programs, discipline, confidence, and anxiety experienced during matches (Pestano & Ibarra, 2021; Samson & Bakinde, 2021; Juezan & Osorno, 2022; Prabowo et al., 2023; Kliziene et al., 2023).

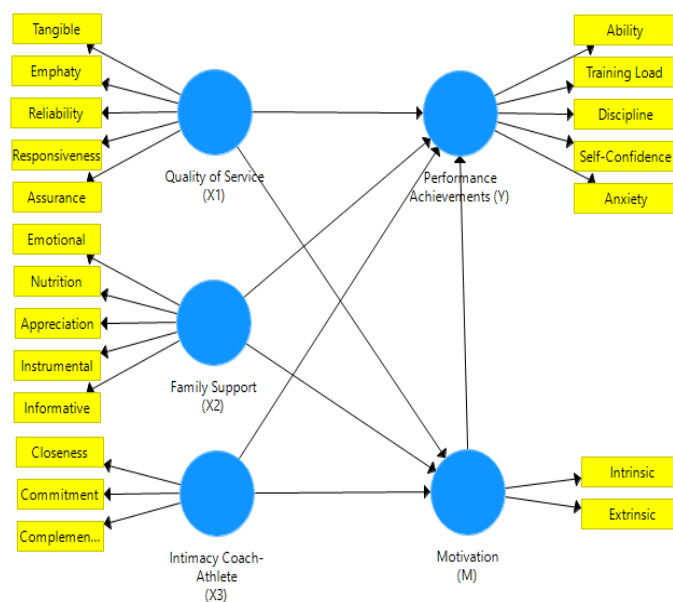


Figure 1. Study design

For data analysis, we used the smart PLS. The results of this study show the results of the PLS Algorithm, namely the first validity test based on the value of the Fornell-Larcker Criterion criteria, the second reliability test based on the value of Cronbach's alpha and composite reliability, the third R square adjusted, the fourth test of the fit model and the fifth test of the structural model using the bootstrapping menu.

3. RESULTS

The results of the validity test value are based on the the Fornell-Lacker Criterion criteria value as Table 1 shows the magnitude of the correlation between the construct and its indicators, and indicators from other constructs. The standard value for the Fornell-Larcker criterion should exceed 0.7, indicating an excellent discriminant validity value.

Table 1. Fornell-Larcker Criterion Result

	Achievement Performance _(Y)	Coach-Athlete Intimacy_(X3)	Family Support_(X2)	Motivation_ (M)	Service Quality_(X1)
Achievement Performance_(Y)	0.854				
Coach-Athlete Intimacy_(X3)	0.452	0.878			
Family Support_(X2)	0.556	0.463	0.852		
Motivation_(M)	0.642	0.627	0.630	0.830	
Service Quality_(X1)	0.485	0.289	0.310	0.511	0.889

The reliability assessment in PLS utilized Cronbach's alpha and Composite reliability. It is considered reliable if the Composite reliability value exceeds 0.7, and the recommended Cronbach's alpha value is also above 0.7. The values for Cronbach's alpha and Composite reliability are presented in Table 2.

Table 2. Cronbach's Alpha and Composite Reliability Result

	Cronbach's Alpha	Rho_A	Composite Reliability	Average Variance Extracted (AVE)
Achievement Performance_(Y)	0.973	0.975	0.976	0.730
Coach-Athlete Intimacy_(X3)	0.970	0.973	0.974	0.770
Family Support_(X2)	0.962	0.963	0.967	0.726
Motivation_(M)	0.950	0.953	0.957	0.689
Service Quality_(X1)	0.981	0.983	0.983	0.791

Based on Table 2, it can be seen that the composite reliability value of all research variables is > 0.7 , and Cronbach Alpha is > 0.7 . These results indicate that each variable has met the composite reliability and Cronbach's alpha, so it can be concluded that the overall variable has a high level of readability so that the following analysis can be done.

The evaluation of the PLS structural model commences by examining the R-squared adjusted for each latent dependent variable. Table 3 presents the estimated results of the R-squared adjusted obtained through PLS.

Table 3. R-square Adjusted Result

	R Square	R Square Adjusted
Achievement Performance_(Y)	0.487	0.470
Motivation_(M)	0.614	0.604

Based on Table 3, the adjusted R-Square Adjusted value of the Achievement Performance variable is 0.470. This means that the Achievement Performance variable can be explained by the Service Quality, Family Support, Coach-Athlete Intimacy, and Motivation variables by 47% and the remaining 53% can be explained by other variables that are not contained in this study.

While the adjusted R-Square Adjusted value of the Motivation variable is 0.604, this value means that the Motivation variable can be explained by the Service Quality, Family Support, and Athlete-Trainer Intimacy variables of 60.4%, and the remaining 39.6% can be explained by other variables that are not contained in this study.

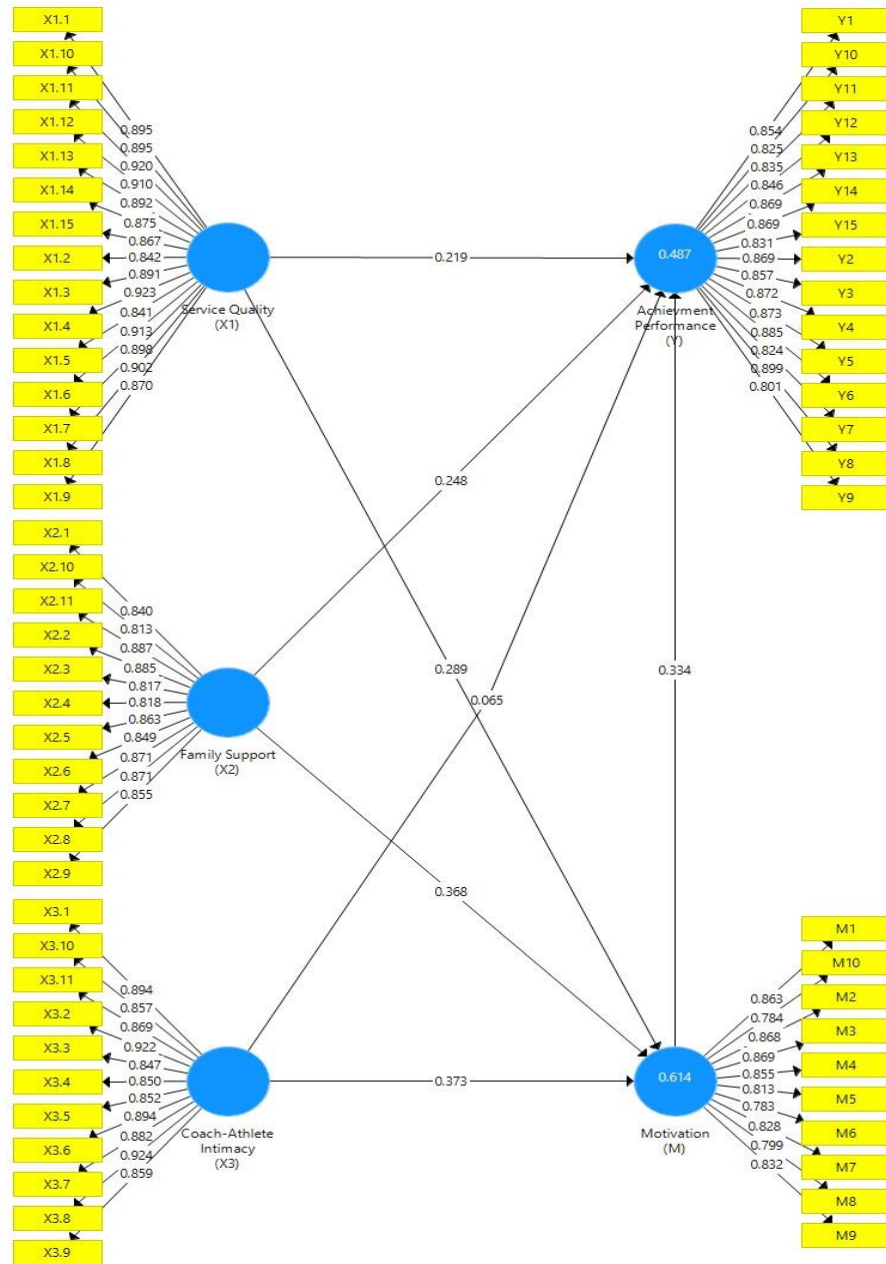


Figure 2. PLS Algorithm Result

The fourth stage of testing is the fit model test. For the model to meet the fit model criteria, the RMS Theta or Root Mean Square Theta value < 0.102, SRMR or Standardized Root Mean Square value < 0.10 or < 0.08, and NFI Value > 0.9. Here are the results of the fit model testing.

Table 4. Fit Model Result

Criteria	Saturated Model	Estimate Model
SRMR	0.064	0.064
d_ULS	7.949	7.949
d_G	18.551	18.551
Chi-Square	6934.237	6934.237

NFI	0.539	0.539
rms Theta	0.161	

Following the fit model output above, the RMS Theta or Root Mean Square Theta value is $0.161 > 0.102$, and the NFI value is $0.539 < 0.9$. Thus, based on the two assessments of the model, it does not meet the criteria of the fit model. However, based on the SRMR value or Standardized Root Mean Square, the value is $0.064 < 0.10$, which means fit model. So, it can be concluded that the model is fit with the data.

The fifth stage of testing is the structural relationship model test to explain the relationship among the variables in the study. The basis used in testing the hypothesis directly is the value contained in the path coefficient output. The basis used to test the hypothesis directly is if the p value < 0.05 (significance level = 5%), then it is stated that there is a significant influence of exogenous variables on endogenous variables. Here is a complete explanation of hypothesis testing (Table 5):

Table 5. Total Effects (Mean, SD, T value, P value)

	Original Sample (O)	Mean Sample (M)	Standard Deviation (STDEV)	T value	P value
Coach-Athlete Intimacy_(X3) -> Achievement Performance_(Y)	0.065	0.064	0.103	0.626	0.532
Coach-Athlete Intimacy_(X3) -> Motivation_(M)	0.373	0.365	0.077	4.831	0.000
Family Support_(X2) -> Achievement Performance_(Y)	0.248	0.252	0.125	1.988	0.047
Family Support_(X2) -> Motivation_(M)	0.368	0.373	0.078	4.691	0.000
Motivation_(M) -> Achievement Performance_(Y)	0.334	0.324	0.123	2.719	0.007
Service Quality_(X1) -> Achievement Performance_(Y)	0.219	0.228	0.101	2.176	0.030
Service Quality_(X1) -> Motivation_(M)	0.289	0.289	0.066	4.358	0.000

Coach-Athlete Intimacy_(X3) -> Motivation_(M) -> Achievement Performance_(Y)	0.125	0.116	0.050	2.513	0.012
Family Support_(X2) -> Motivation_(M) -> Achievement Performance_(Y)	0.123	0.121	0.054	2.259	0.024
Service Quality_(X1) -> Motivation_(M) -> Achievement Performance_(Y)	0.096	0.092	0.039	2.443	0.015

4. DISCUSSION

The results of testing the first hypothesis, namely the Effect of Coach-Athlete Intimacy on Achievement Performance, show a p-value of 0.532. These results indicate that Coach-Athlete Intimacy has no effect on Achievement Performance. Thus, the hypothesis that says Coach-Athlete Intimacy has a positive and significant effect on Achievement Performance is rejected. The results of the second hypothesis test, the Effect of Coach-Athlete Intimacy on Motivation, showed a p-value of 0.000. The results show that Coach-Athlete Intimacy has a significant effect on Motivation. Thus, the hypothesis that says Coach-Athlete Intimacy has a positive and significant effect on Motivation is accepted. The relationship between coach and athlete is the most important in sports; the athletes believe that the coach is a strong reason for success in achievement (Shanmuganathan-Felton et al., 2022). Therefore, the importance of a good relationship between coaches and athletes so that the achievement performance and particular motivation of student-athletes can continue to increase while having a career in professional sports (da Silva et al., 2022).

The results of the third hypothesis test regarding the Effect of Family Support on Achievement Performance, show a p-value value of 0.047. The results show that Family Support influenced Achievement Performance. So, the hypothesis that says that Family Support has a positive and significant effect on Achievement Performance is accepted. The results of the fourth hypothesis test regarding the Effect of Family Support on Motivation, showed a p-value value of 0.000. The results show that family support affected motivation. Thus, the hypothesis that says that Family Support has a positive and significant Effect on Achievement Performance is accepted. Student-athletes need family support to achieve achievements that include parenting, supervision, closeness,

and career determination (Rouquette et al., 2020). From the results of these two hypotheses, family support is strongly related to achievement performance and motivation of student-athletes.

The results of the fifth hypothesis test, namely the Effect of Motivation on Achievement Performance, show a p-value of 0.007. These results show that motivation affects performance. So, the hypothesis that says that Family Support has a positive and significant effect on Achievement Performance is accepted. Motivation is the basis for every athlete to compete more competitively, especially student-athletes (Yukhymenko-Lescroart, 2021). By having a strong motivation, obstacles within the athlete can be overcome (Elia et al., 2020; Almagro et al., 2020). Therefore, the athlete can be calm and focused in training or competition.

The results of the sixth hypothesis test, the Effect of Service Quality on Achievement Performance, show a p-values of $0.030 < 0.05$. These results show that Service Quality influences Performance. Thus, the hypothesis that says that Family Support has a positive and significant effect on Achievement Performance is accepted. The results of the seventh hypothesis test regarding the Effect of Service Quality on Motivation, show a p-value of 0.000. These results show that the quality of service affects motivation. So, the hypothesis that says that Family Support has a positive and significant effect on Achievement Performance is accepted. Quality of service can be directly related to the facilities of the training infrastructure and the level of performance of the organization or sports club (Putro et al., 2020; Lumintuarso et al., 2021). From the results of the hypothesis, it is clear that to produce optimal achievement performance and strong motivation, good service quality results are needed following the expectations of athletes.

The results of the eighth hypothesis test, the Effect of Coach-Athlete Intimacy on Achievement Performance through Motivation as a Mediator, showed a p-value of 0.012. The results show that Coach-Athlete Intimacy influences Achievement Performance through Motivation as a Mediator. Thus, the hypothesis is accepted that Coach-Athlete Intimacy has a positive and significant influence on Achievement Performance through Motivation as a Mediator. The relationship between coaches and athletes is a demand for sporting achievement in young athletes (Freire et al., 2023). By looking at the increased achievement accompanied by strong motivation, it can be concluded that the relationship between the coach and the athlete is excellent. Therefore, awareness between both parties is essential if you want to have a great career and be recognized as an athlete and coach (Nasiruddin et al., 2021; López de Subijana et al., 2022).

The results of the ninth hypothesis test regarding the Effect of Family Support on Achievement Performance through Motivation as a Mediator, show a p-values of $0.024 < 0.05$. The results show that Family Support influences Achievement Performance through Motivation as a Mediator, so the hypothesis that says that Family Support has a positive and significant effect on Achievement Performance is accepted. Family support affects performance through motivation because family support forms a strong personality of the athlete, makes them do not easily give up, and makes them continue to advance in every difficulty (Kumar et al., 2021). Furthermore, the athlete feels confident about his abilities (Ihsan et al., 2022).

The results of the tenth hypothesis test related to the Effect of Service Quality on Achievement Performance through Motivation as a Mediator, show a p-value of $0.015 < 0.05$. The results show that Family Support influences Achievement Performance through Motivation as a Mediator, so the hypothesis that says that Family Support has a positive and significant effect on Achievement Performance is accepted. Good quality of service and meeting the needs of athletes can provide high motivation. Thus, student-athletes can train optimally and, of course, are expected to gain achievements (Nugroho et al., 2021). By refining and improving the service quality, family support, and coach-athlete relationship can improve motivation and performance of student-athletes.

5. CONCLUSIONS

Certainly, based on the results obtained, it appears that the Performance Achievement (Y) variable can be elucidated by the Service Quality (X1), Family Support (X2), Coach-Athlete Intimacy (X3), and Motivation (M) variables, accounting for 47% of its variance. At the same time, the Motivation variable (M) can be explained by the Service Quality variable (X1), Family Support (X2), and Coach-Athlete Intimacy (Y3) of 60.4%. Testing the structural relationship model on path coefficient output yielded ten hypotheses. From the results of these ten hypotheses, only the Coach-Athlete Intimacy relationship to Achievement Performance with p-values of $0.532 > 0.05$ which shows that there is no significant effect. However, the results of the other nine hypotheses show that they have significant effects. This research model can be said to meet the fit model criteria with data based on SRMR or Standardized Root Mean Square Value of $0.064 < 0.10$. Therefore, we emphasize the importance of further research to expand on what the researchers did in this study, including expanding sample sizes to other variables that influence coaches in sports achievement.

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CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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