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Relationship towards goals: investigating the impact of the coach-athlete relationship on perceived fitness and sports performance of BulSU student-athletes
Relación hacia los objetivos: Investigando el impacto de la relación entrenador-atleta en la percepción de la condición física y el rendimiento deportivo de los estudiantes-atletas de BulSU

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Abstract

This study aimed to investigate the influence of the coach-athlete relationship on subjective physical fitness and subjective sports performance satisfaction among Filipino state university student-athletes. A quantitative research design was employed, involving 213 student-athletes selected through simple random sampling during the second semester of Academic Year 2024–2025. Data were gathered using three validated instruments: the Coach-Athlete Relationship Scale (assessing Closeness, Commitment, and Complementarity), the Self-Perception of Physical Fitness Scale (evaluating morphological, muscular, motor, and cardiovascular fitness), and the Athlete's Subjective Performance Scale (reliably categorized into six levels). Ethical clearance was obtained, and informed consent was provided by all participants. Data were analyzed using SPSS version 30 with multiple linear regression. Results showed that the coach-athlete relationship significantly predicted both subjective sports performance satisfaction and all dimensions of subjective physical fitness for the overall group. For female athletes, the relationship was a strong predictor of both performance satisfaction and fitness dimensions, while for male athletes, it did not significantly influence performance satisfaction and had limited effects on some fitness components. These findings emphasize the importance of nurturing positive coach-athlete relationships, especially for female athletes, to enhance motivation, fitness, and satisfaction. The study's limitations include modest sample size and exclusive use of quantitative methods; thus, future research should employ sport-specific designs, larger samples, and qualitative or mixed methods to further explore these dynamics.

Keywords: Coach, athlete, physical fitness, athletic performance

Resumen

Este estudio tuvo como objetivo investigar la influencia de la relación entrenador-atleta en la condición física subjetiva y la satisfacción con el rendimiento deportivo subjetivo de los estudiantes-atletas de una universidad estatal filipina. Se empleó un diseño de investigación cuantitativo, con una muestra de 213 estudiantes-atletas seleccionados mediante muestreo aleatorio simple durante el segundo semestre del año académico 2024–2025. Los datos se recopilaban utilizando tres instrumentos validados: la Escala de Relación Entrenador-Athleta (que evalúa la cercanía, el compromiso y la complementariedad), la Escala de Auto percepción de la Condición Física (que mide las dimensiones morfológicas, de fuerza muscular, motora y cardiovascular) y la Escala de Rendimiento Deportivo Subjetivo del Atleta (validada con seis niveles de confiabilidad). Se obtuvo el aval ético y el consentimiento informado de todos los participantes. Los datos fueron analizados con el software SPSS versión 30, aplicando regresión lineal múltiple. Los resultados indicaron que la relación entrenador-atleta fue un predictor significativo tanto de la satisfacción con el rendimiento deportivo subjetivo como de todas las dimensiones de la condición física subjetiva en el grupo general. En las atletas femeninas, la relación tuvo una influencia significativa sobre ambas variables, mientras que en los atletas masculinos no predijo de forma significativa la satisfacción con el rendimiento y tuvo efectos limitados en algunas dimensiones físicas. Estos hallazgos destacan la importancia de fomentar relaciones positivas entre entrenadores y atletas, especialmente en el caso de las mujeres, para mejorar la motivación, la condición física

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y la satisfacción deportiva. Las limitaciones del estudio incluyen el tamaño reducido de la muestra y el uso exclusivo de métodos cuantitativos; por lo tanto, se recomienda que futuras investigaciones adopten diseños específicos por deporte, muestrales más amplios y enfoques cualitativos o mixtos para explorar más a fondo estas dinámicas.

Palabras clave: entrenador, atleta, condición física, rendimiento deportivo

Introduction

The coach-athlete relationship is a dynamic and multifaceted bond that integrates emotional connection, effective communication, motivational support, and professional guidance to enhance performance and personal development. It evolves through intimacy, interaction, and cooperation, and is shaped by power dynamics that can impact athletes either positively or negatively (Jowett, 2009; Jowett, 2017; Stirling & Kerr, 2009). This relationship fosters motivation and autonomy through supportive coaching practices, which are critical in developing life skills (Mageau & Vallerand, 2003; McShan & Moore, 2023). Coaches provide both structural and emotional support to guide athletes' development in sport and in life (Short, 2005), especially when paired with well-structured training programs designed to improve physical fitness outcomes (Masagca, 2024a).

The 3+1 Cs framework—closeness, commitment, complementarity, and co-orientation—offers a comprehensive lens for understanding the coach-athlete relationship. Closeness is defined by emotional bonds based on trust and appreciation (Jowett, 2009; Stirling & Kerr, 2009), commitment reflects consistent dedication and relational stability (Jowett & Ntoumanis, 2004; McShan & Moore, 2023), complementarity promotes cooperative role interactions to reduce miscommunication (Jowett & Carpenter, 2015), and co-orientation emphasizes shared goals and mutual understanding (Almeida, 2018). Recent advancements in training delivery, including artificial intelligence–assisted programs, show how co-orientation and complementarity can be enhanced through individualized support systems (Masagca, 2025d).

Beyond performance, positive coach-athlete relationships enhance emotional, psychological, and physical well-being. Psychological flexibility, relational engagement, and positive affect improve relationship quality and reduce mental health risks (Twisleton

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et al., 2020; Gander et al., 2016; Ramsey & Gentzler, 2015). Supportive interpersonal bonds are also associated with increased life satisfaction, lower mortality rates, and reduced depressive symptoms (Antonucci et al., 2001; Chida & Steptoe, 2008; Lee & Szinovacz, 2016). Long-term well-being is further strengthened by organizational support and positive psychological dispositions (Fuochi & Voci, 2020; Heinitz et al., 2018). These findings align with studies showing that environmental factors—such as music—can serve as ergogenic aids, contributing to both mental readiness and performance (Masagca, 2025c).

In the athletic domain, the quality of the coach-athlete relationship influences athletes' physical self-perceptions, motivation, and skill development (Jowett & Cramer, 2010). Autonomy and competence support are linked to enhanced psychological and physical health among adolescent athletes (Reinboth et al., 2004). Strong relational dynamics also improve training preparation and efficiency, especially in strength sports (Foulds et al., 2019). Motivational coaching improves performance adherence and outcomes (Almagro et al., 2010; Pope & Wilson, 2015), while relational efficacy helps manage stress and physiological readiness by reducing cortisol levels (Davis et al., 2018; Jackson et al., 2010). The effectiveness of these approaches is magnified when applied alongside targeted training techniques such as jump squats and calisthenics (Masagca, 2025b; Masagca, 2024b).

The importance of coach-athlete relationships is further supported by major theoretical models. Self-Determination Theory emphasizes the fulfillment of basic psychological needs—autonomy, competence, and relatedness—as the foundation of motivation (Deci & Ryan, 1985). The 3+1 Cs framework offers a structured view of interpersonal dynamics (Jowett, 2007), while Social Support Theory underlines the mental and emotional benefits of social bonds (Cohen & Wills, 1985). These frameworks are supported by empirical evidence demonstrating that quality coaching fosters collaboration, motivation, and growth (Jowett et al., 2017; Jowett & Shanmugam, 2016; Rees & Hardy, 2000). Recent training-based research also affirms that when students receive structured support, they are more likely to experience holistic physical benefits (Masagca, 2025a).

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Despite substantial supporting literature, two key research gaps persist. First, the influence of coach-athlete relationships on subjective physical fitness and perceived sports performance remains underexplored, especially in connection with holistic athletic development. While several studies have demonstrated the effectiveness of various physical fitness interventions—including those involving untrained students, gender identity, and ergogenic strategies (Masagca, 2025a; Masagca, 2025b; Masagca, 2024b)—they largely overlook the psychological and relational variables tied to these outcomes. Second, very few studies, if any, have examined these dynamics among Filipino state university student-athletes. To address these gaps, the present study investigates how the coach-athlete relationship influences subjective physical fitness and sports performance within this specific population.

Methodology

Research Design

The study utilized a quantitative research approach, with variables assessed using validated and reliable tools that generated numerical data. Additionally, predictive analysis was conducted to explore the relationship between the coach-athlete relationship, subjective sports performance, and fitness level.

Sampling and respondents

The study population consisted of 213 student-athletes from various sports events at a state university, enrolled during the second semester of the Academic Year 2024-2025. Inclusion criteria were applied to ensure the selection of qualified respondents. Eligible participants had to be bona fide student-athletes of Bulacan State University, included in the training pool of a recognized university sports team and must have undergone formal athletic training for at least one year. Exclusion criteria were also established, excluding athletes who exceeded the playing age, with student-athletes aged 25 and above being ineligible. Additionally, participants retained the right to withdraw from the study at any time. These criteria were designed to ensure rigor in sampling. The sampling method employed was simple random sampling. Table 1 presents the respondents' demographic profile, including data on age, height, weight, and body mass

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index (BMI) for females, males, and all respondents combined. Mean and standard deviation were used in the analysis. The mean age was 20.63 ± 1.57 years for female respondents, 20.25 ± 1.69 years for male respondents, and 20.42 ± 1.647 years overall. The mean height was 158.15 ± 6.92 cm for female respondents, 168.79 ± 16.24 cm for male respondents, and 164.62 ± 9.503 cm overall. The mean weight was 53.14 ± 8.67 kg for female respondents, 64.37 ± 11.62 kg for male respondents, and 59.26 ± 11.793 kg overall. The mean BMI was 21.21 ± 2.93 for female respondents, 22.21 ± 3.31 for male respondents, and 21.76 ± 3.18 overall

Table 1. Demographic Profile of the Respondents

	Female	Male	All
Age	20.63± 1.57	20.25± 1.69	20.42± 1.647
Height	158.15± 6.92	168.79± 16.24	164.62± 9.503
Weight	53.14± 8.67	64.37± 11.62	59.26± 11.793
BMI	21.21± 2.93	22.21± 3.31	21.76± 3.18

Research Instrument

Coach-athlete relationship scale (CART-Q)

The Coach-Athlete Relationship Questionnaire (CART-Q) assesses the quality of coach-athlete relationships based on the 3C model: Closeness, Commitment, and Complementarity. It demonstrates multidimensionality and strong validity, including content, predictive, and construct validity (Jowett & Ntoumanis, 2004). Its cross-cultural validity is supported across seven countries (Yang & Jowett, 2012), with additional validation in Belgium showing internal consistency and concurrent validity (Balduck & Jowett, 2010). Structural and temporal reliability was confirmed in Brazil (Nascimento Junior et al., 2023). Factor structure reliability for both unidimensional and multidimensional models was established (Woolliams et al., 2021), while validation in Portugal confirmed associations with enjoyment (Pinho et al., 2024) and in China, strong factorial and concurrent validity (Yang & Jowett, 2010). These studies establish the CART-Q as a reliable measure across diverse populations.

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Subjective physical fitness level

Subjective physical fitness levels were measured using the Self-Perception of Physical Fitness Scale, designed to assess perceived physical fitness in individuals aged 11.0 to 18.9 years (Cossio-Bolaños et al., 2016). This scale evaluates four dimensions: morphological, muscular strength, motor, and cardiovascular fitness. Respondents indicate their level of agreement with statements related to these dimensions using a 3-point scale.

Subjective Sports Performance

The Athlete's Subjective Performance Scale (ASPS) was used to quantify subjective sports performance which was validated using Rasch analysis with data from 201 Korean university athletes. The scale demonstrated strong reliability, with item separation at 3.54 and person separation at 2.86. However, the original 10-category rating scale exhibited disordered thresholds, and a 6-category scale was identified as more reliable and valid for measurement accuracy (Lee et al., 2023).

Data Gathering

The data gathering commenced with the ethical clearance from the Bulacan State University, College of Sports, Exercise and Recreation Local Research Ethics Committee. The Student-athletes of the were asked to accomplish three instruments which measures and quantifies the variables of the study namely, Coach-athlete relationship scale (CART-Q), Subjective physical fitness level, and Subjective Sports performance. After this, data analysis commenced.

Data Analysis

Multiple linear regression analysis was conducted to determine whether the coach-athlete relationship could predict subjective athletic performance and fitness levels. The data was analyzed using SPSS software, version 30.

Potential Ethical Issues

The study was approved by the Local In-House Ethics Committee of the College of Sport, Exercise, and Recreation at Bulacan State University. Following ethical

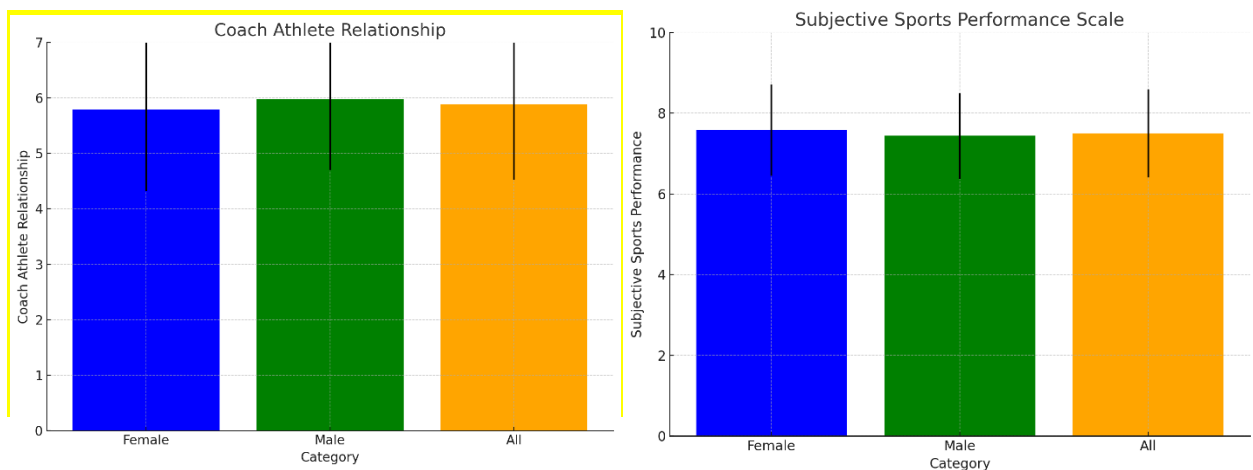
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clearance, permission to commence data collection was obtained from the College's research coordinator. Participants were then invited to provide informed consent for their participation. They were assured that the results would be accessible to them and the administration of the study location upon request. Additionally, it was emphasized that all collected data would be handled with strict confidentiality.

Results

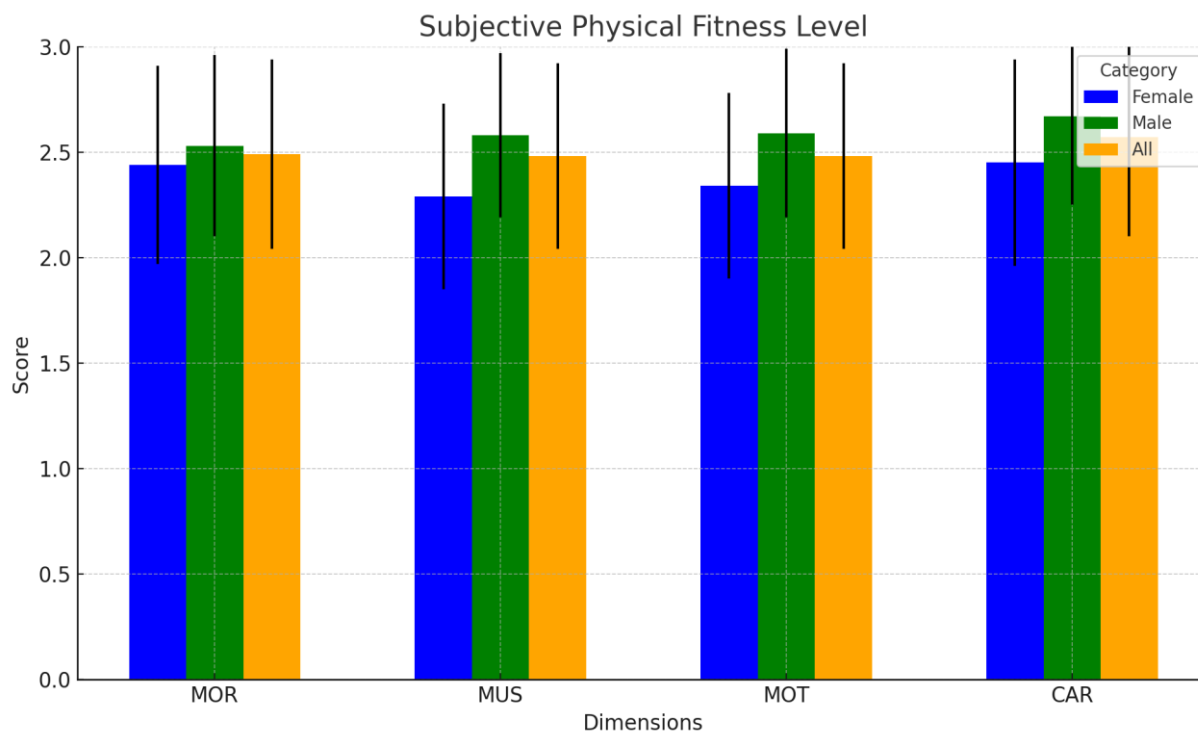
Figure 1 presents the level of Coach-athlete relationship, subjective sports performance satisfaction, and subjective physical fitness. For the coach-athlete relationship, the mean score was 5.79 ± 1.47 for female respondents, 5.98 ± 1.28 for male respondents, and 5.89 ± 1.37 overall. For subjective sports performance satisfaction, the mean score was 7.58 ± 1.13 for female respondents, 7.44 ± 1.06 for male respondents, and 7.50 ± 1.09 overall. In the morphological dimension, the mean score was 2.44 ± 0.47 for female respondents, 2.53 ± 0.43 for male respondents, and 2.49 ± 0.45 overall. In the muscle strength dimension, the mean score was 2.29 ± 0.44 for female respondents, 2.58 ± 0.39 for male respondents, and 2.48 ± 0.44 overall. In the motor dimension, the mean score was 2.34 ± 0.44 for female respondents, 2.59 ± 0.40 for male respondents, and 2.48 ± 0.44 overall. In the cardiovascular dimension, the mean score was 2.45 ± 0.49 for female respondents, 2.67 ± 0.42 for male respondents, and 2.57 ± 0.47 overall.

Figure 1. Level of Coach-athlete relationship, subjective sports performance satisfaction, and subjective physical fitness



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	Female	Male	All
CAR	5.79± 1.47	5.98± 1.28	5.89± 1.37
SSPS	7.58± 1.13	7.44± 1.06	7.50± 1.09
MOR	2.44± .47	2.53± .43	2.49± .45
MUS	2.29± .44	2.58± .39	2.48± .44
MOT	2.34± .44	2.59± .40	2.48± .44
CAR	2.45± .49	2.67± .42	2.57± .47

Notes. CAR = Coach and Athlete Relationship; SSPS = Subjective Sports Performance Satisfaction; MOR = Morphological Dimension; MUS = Muscle Strength Dimension; MOT = Motor Dimension; CAR = Cardiovascular Dimension.

Multiple linear regression was employed to examine whether the coach-athlete relationship predicts subjective physical fitness and sports performance among all respondents. Figure 2 shows that the coach-athlete relationship significantly predicted subjective sports performance satisfaction, accounting for 5.1% of the variance ($R^2 = 0.051$, $F(1, 211) = 11.295$, $t = 3.361$, $p < .001$), leading to the acceptance of H_1 . It also significantly predicted the morphological dimension, explaining 9.3% of the variance ($R^2 = 0.093$, $F(1, 211) = 21.705$, $t = 4.659$, $p < .001$), resulting in the acceptance of H_2 . Similarly, the coach-athlete relationship significantly predicted the muscle strength dimension, accounting for 5.4% of the variance ($R^2 = 0.054$, $F(1, 211) = 12.071$, $t = 3.474$,

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$p < .001$), leading to the acceptance of H₃. The motor dimension was also significantly predicted by the coach-athlete relationship, explaining 5.6% of the variance ($R^2 = 0.056$, $F(1, 211) = 12.551$, $t = 3.543$, $p < .001$), resulting in the acceptance of H₄. Lastly, the coach-athlete relationship significantly predicted the cardiovascular dimension, accounting for 5.4% of the variance ($R^2 = 0.054$, $F(1, 211) = 11.944$, $t = 3.456$, $p < .001$), leading to the acceptance of H₅.

Figure 2. Linear Regression Analysis of Coach-athlete Relationship and Subjective Physical Fitness and Sports Performance of All Respondents

Hypothesis		Beta Coefficient	R^2	F	t - value	p - value	Decision
H ₁	CAR→SSPS	.179	0.051	11.295	3.361	<.001	Accepted
H ₂	CAR→MOR	.101	.093	21.705	4.659	<.001	Accepted
H ₃	CAR→MUS	.074	.054	12.071	3.474	<.001	Accepted
H ₄	CAR→MOT	.075	.056	12.551	3.543	<.001	Accepted
H ₅	CAR→CAR	.079	.054	11.944	3.456	<.001	Accepted

Notes. CAR = Coach and Athlete Relationship; SSPS = Subjective Sports Performance Satisfaction; MOR = Morphological Dimension; MUS = Muscle Strength Dimension; MOT = Motor Dimension; CAR = Cardiovascular Dimension.

Investigation on the variables of the study was also focused on female respondents. Figure 3 shows that the coach-athlete relationship significantly predicted subjective sports performance satisfaction, accounting for 8.2% of the variance ($R^2 = 0.082$, $F(1, 211) = 8.505$, $t = 2.916$, $p = .004$), leading to the acceptance of H₁. It also significantly predicted the morphological dimension, explaining 7.9% of the variance ($R^2 = 0.079$, $F(1, 211) = 8.101$, $t = 2.846$, $p = .005$), resulting in the acceptance of H₂. Similarly, the coach-athlete relationship significantly predicted the muscle strength dimension, accounting for 7.6% of the variance ($R^2 = 0.076$, $F(1, 211) = 7.812$, $t = 2.795$, $p = .006$), leading to the acceptance of H₃. The motor dimension was also significantly predicted by the coach-athlete relationship, explaining 7.1% of the variance ($R^2 = 0.071$, $F(1, 211) = 7.281$, $t = 2.698$, $p = .008$), resulting in the acceptance of H₄. Lastly, the coach-athlete relationship significantly predicted the cardiovascular dimension, accounting for 8.8% of the variance ($R^2 = 0.088$, $F(1, 211) = 9.176$, $t = 3.029$, $p = .003$), leading to the acceptance of H₅.

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Figure 3. Linear Regression Analysis of Coach-athlete Relationship and Subjective Physical Fitness and Sports Performance of Female Respondents

Hypothesis		Beta Coefficient	R^2	F	t - value	p - value	Decision
H ₁	CAR→SSPS	.220	.082	8.505	2.916	.004	Accepted
H ₂	CAR→MOR	.091	.079	8.101	2.846	.005	Accepted
H ₃	CAR→MUS	.083	.076	7.812	2.795	.006	Accepted
H ₄	CAR→MOT	.080	.071	7.281	2.698	.008	Accepted
H ₅	CAR→CAR	.100	.088	9.176	3.029	.003	Accepted

Notes. CAR = Coach and Athlete Relationship; SSPS = Subjective Sports Performance Satisfaction; MOR = Morphological Dimension; MUS = Muscle Strength Dimension; MOT = Motor Dimension; CAR = Cardiovascular Dimension.

As for male respondents, Table 5 presents that the coach-athlete relationship did not significantly predict subjective sports performance satisfaction, accounting for only 3.0% of the variance ($R^2 = 0.030$, $F(1, 211) = 3.581$, $t = 1.892$, $p = .061$), leading to the rejection of H₁. However, the coach-athlete relationship significantly predicted the morphological dimension, explaining 10.4% of the variance ($R^2 = 0.104$, $F(1, 211) = 13.192$, $t = 3.632$, $p < .001$), resulting in the acceptance of H₂. The coach-athlete relationship did not significantly predict the muscle strength dimension, accounting for only 2.8% of the variance ($R^2 = 0.028$, $F(1, 211) = 0.074$, $t = 1.802$, $p = .072$), leading to the rejection of H₃. On the other hand, the coach-athlete relationship significantly predicted the motor dimension, explaining 3.4% of the variance ($R^2 = 0.034$, $F(1, 211) = 4.055$, $t = 2.014$, $p = .046$), resulting in the acceptance of H₄. Lastly, the coach-athlete relationship did not significantly predict the cardiovascular dimension, accounting for only 1.9% of the variance ($R^2 = 0.019$, $F(1, 211) = 2.206$, $t = 1.485$, $p = .140$), leading to the rejection of H₅.

Table 5. Linear Regression Analysis of Coach-athlete Relationship and Subjective Physical Fitness and Sports Performance of Male Respondents

Hypothesis		Beta Coefficient	R^2	F	t - value	p - value	Decision
H ₁	CAR→SSPS	.144	.030	3.581	1.892	.061	Rejected
H ₂	CAR→MOR	.108	.104	13.192	3.632	<.001	Accepted
H ₃	CAR→MUS	.051	.028	.074	1.802	.072	Rejected
H ₄	CAR→MOT	.057	.034	4.055	2.014	.046	Accepted
H ₅	CAR→CAR	.045	.019	2.206	1.485	.140	Rejected

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Notes. CAR = Coach and Athlete Relationship; SSPS = Subjective Sports Performance Satisfaction; MOR = Morphological Dimension; MUS = Muscle Strength Dimension; MOT = Motor Dimension; CAR = Cardiovascular Dimension.

Discussion

Hypotheses of the Study

Based on the reviewed literature and theoretical frameworks, the present study sought to examine the influence of the coach-athlete relationship on various components of athletes' subjective physical fitness and sports performance. Given the multifaceted nature of physical fitness, the study considered four key dimensions: morphological, muscular strength, motor, and cardiovascular. In addition, subjective sports performance satisfaction was included as a critical psychological outcome. The following hypotheses were formulated to guide the investigation: H1 – The coach-athlete relationship has a direct influence on the morphological dimension; H2 – The coach-athlete relationship has a direct influence on the muscular strength dimension; H3 – The coach-athlete relationship has a direct influence on the motor dimension; H4 – The coach-athlete relationship has a direct influence on the cardiovascular dimension; and H5 – The coach-athlete relationship has a direct influence on subjective sports performance satisfaction.

Coach-athlete Relationship on subjective sports Performance satisfaction and subjective physical Fitness Level

The coach-athlete relationship was a predictor of subjective sports performance satisfaction. With this, H1 was accepted. This was the same case with subjective physical fitness, as the coach-athlete relationship influenced the morphological, muscular, motor, and cardiovascular dimensions. H2, H3, H4, and H5 were accepted. An investigation was conducted on all of the respondents. Previous studies directly and indirectly support the results of the present study. Strong coach-athlete relationships enhance stress management, reducing cortisol levels and improving performance in high-intensity scenarios (Davis et al., 2018). Motivation and autonomy are critical factors, as autonomy-supportive coaching has been shown to enhance performance in rugby athletes (Pope & Wilson, 2015). Positive relationships also fulfill athletes' basic psychological needs, which significantly enhance their physical well-being (Jowett et al., 2017). Harmonious

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coaching passion fosters mental readiness and preparation, leading to superior athletic performance (Lafrenière et al., 2011). Furthermore, relational efficacy within the coach-athlete dynamic enhances collaboration, which boosts physical performance (Jackson et al., 2010). Relationships framed within the 3+1 Cs model have improved training efficiency and physical preparation in strength and conditioning contexts (Foulds et al., 2019). Coaches who emphasize autonomy support and competence contribute significantly to adolescent athletes' psychological and physical well-being (Reinboth et al., 2004). Strategies such as openness and motivational reinforcement promote both physical and psychological development (Rhind, 2008). Autonomy-supportive coaching fosters long-term adherence to physical activity and sports engagement (Almagro et al., 2010). High-quality coach-athlete relationships positively influence athletes' physical self-perceptions, skill development, and overall performance (Jowett & Cramer, 2010). These findings highlight the importance of nurturing positive relationships to enhance fitness, motivation, stress management, and athletic performance. Positive coach-athlete relationships enhance athletes' satisfaction, motivation, and physical fitness across multiple dimensions, emphasizing the importance of mutual trust, effective communication, and autonomy support. Coaches should focus on relational skills and individualized approaches. At the same time, training programs should integrate relationship-building modules, monitoring tools, and evidence-based practices to foster long-term engagement and holistic development. Empowering coaches and athletes to prioritize these dynamics can improve performance, well-being, and sustained participation in sports. Certain limitations were present in the study. The methodology did not specify the sports event involved in the study. With this, there is a lack of sport-specific investigation of the variables, as different kinds of sports have different team cultures. Lastly, only 213 respondents were investigated. This can provide limited general results. With this, future studies should focus on sports-specific investigation and increase the number of respondents for the generality of the data. Also, it was suggested that the study be replicated for validation. Lastly, other instruments that measure the study's variables should be utilized in future studies.

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Coach-athlete relationship on subjective sports performance satisfaction and subjective physical fitness level of male respondents

As for female respondents, the coach-athlete relationship was a predictor of subjective sports performance satisfaction. With this, H1 was accepted. This was the same case with subjective physical fitness, as the coach-athlete relationship influenced the morphological, muscular, motor, and cardiovascular dimensions. H2, H3, H4, and H5 were accepted. Previous studies suggested that the coach-athlete relationship significantly influences female athletes' performance by addressing their psychological, emotional, and motivational needs. Supportive and collaborative coaching fosters trust, open communication, and autonomy, enhancing athletes' motivation and satisfaction (Norman, 2015; Gregson, 2011). Gender-sensitive approaches that challenge societal biases and personalize feedback further improve engagement and performance (Norman & French, 2013). Emotionally supportive coaching reduces stress and cortisol levels, enabling athletes to perform better under pressure (Davis et al., 2018). Additionally, cohesive relationships within team sports foster synergy and trust, enhancing collective performance (Surujlal & Dhurup, 2011). Strong interpersonal connections between coaches and female athletes also improve emotional well-being, enabling greater focus and sustained engagement in training and competition (Hovden & Tjørndal, 2019). The results imply that fostering supportive and gender-sensitive coaching relationships is essential to addressing female athletes' psychological, emotional, and physical fitness needs, thereby enhancing their performance and satisfaction. The findings suggest that training programs should empower female athletes while educating coaches on effectively navigating gender-specific dynamics to promote confidence, team cohesion, and inclusivity in sports. Limitations were seen in the usage of a quantitative approach in the investigation. Experience and perception were vital to be the focus of the investigation as this will give information about the dynamics of the variable. With this, future studies should explore the variables through qualitative methodologies such as observation and interviews.

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Coach-athlete relationship on subjective sports performance satisfaction and subjective physical fitness level of female respondents

Lastly, the male respondents' coach-athlete relationship was not a predictor of their subjective sports performance satisfaction. With this, H1 was rejected on the aspect of subjective physical fitness. Morphological and motor dimensions were found to be insignificantly influenced by the coach-athlete relationship, leading to the acceptance of H2 and H4. Contrarily, muscle strength and cardiovascular dimension were not influenced by the study's independent variable, which resulted in the rejection of H3 and H5. Male athletes, athletes, and coach-athlete relationships may not consistently predict sports performance due to several contextual and psychological factors. Studies show no significant gender differences in relationship quality, indicating that other variables might mediate its influence (Kassim et al., 2019). While high-quality relationships can reduce stress, this may not directly translate into performance gains for male athletes (Davis et al., 2018). The influence of transformational leadership on relationship quality and developmental outcomes may also vary across genders and contexts (Subijana et al., 2021). Additionally, male athletes often experience weaker relational interdependence, which might diminish the connection between relationship quality and performance satisfaction (Jowett & Nezlek, 2012). In team sports, performance outcomes are often tied more to collective efficacy than relational dynamics (Hampson & Jowett, 2014). These findings suggest that while coach-athlete relationships are essential, their impact on male athletes' performance is influenced by broader contextual and individual factors. The investigation specific to males had its limitations. The qualitative aspect was not involved in scrutinizing the relationship between variables of the study. This approach may complement quantitative data as it will view the investigation from another perspective. Future studies should involve qualitative approaches such as interviews, observation, and the same data-gathering technique. Also, the mixed method is suggested.

Conclusion

The coach-athlete relationship was a predictor of subjective sports performance satisfaction and subjective physical fitness, influencing morphological, muscular, motor,

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and cardiovascular dimensions for athletes overall. For female athletes, the coach-athlete relationship significantly predicted both subjective sports performance satisfaction and physical fitness across all dimensions. However, for male athletes, the coach-athlete relationship did not predict subjective sports performance satisfaction, and its influence on morphological and motor dimensions was insignificant. The findings emphasize the importance of nurturing positive coach-athlete relationships to enhance fitness, motivation, stress management, and performance. Such relationships, built on trust, communication, and autonomy support, improve athlete satisfaction, motivation, and fitness. Coaches should adopt relational skills and individualized approaches, while training programs should include relationship-building modules and evidence-based practices. Gender-sensitive coaching is crucial for addressing female athletes' psychological, emotional, and physical fitness needs, boosting performance and satisfaction. For male athletes, the influence of coach-athlete relationships on performance depends on broader contextual and individual factors. The study's 213 respondents limited its generalizability, highlighting the need for larger, sport-specific investigations. The reliance on a quantitative approach overlooked experiential and perceptual dynamics, which could be explored through qualitative methods to complement and enrich the findings. Future studies should prioritize sport-specific investigations, larger sample sizes, and replication for validation. Utilizing diverse instruments and incorporating qualitative methods, such as interviews and observation, alongside mixed-method approaches is recommended to provide deeper insights into the variables.

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